

**One man one megawatt  
one woman one candle:**

**Women, gender and energy in South Africa,  
with a focus on research**

**WENDY JILL ANNECKE**

Submitted to the Faculty of Human Sciences  
at the University of Natal, Durban as a dissertation for the degree of Doctor of  
Philosophy  
March 2003

## Declaration

I declare that, except where otherwise acknowledged, this is my original work and that it has not been submitted in this or similar form for a degree at any other university.

W J Annecke

Date:

A handwritten signature in blue ink, appearing to read 'W J Annecke', is written above the date '28.2.2003'.

## Acknowledgements

I thank Professor Bill Freund, my supervisor, for his patience and guidance.

I thank those who gave up time to be interviewed, asked questions and read chapters: Elizabeth Cecelski, Anita Craig, Bronwyn James, Fiona Ross, Sarah Ward, the late Ilne-Marie Hofmeyer, Sandile Tyatya, Johan Basson, Reinhold Viljoen, Khibi Mabuse, people at the DME, and most especially Rita Mfenyana. Kelly Knott and Sue Dawson read and discussed a chapter. Rick Murray provided a shining example of how to be relaxed and focused. Tim James worked a speedy miracle with formatting. I owe the title of the thesis to Charles Meth.

Heide Hackman and I stepped into this together and I have appreciated her constant encouragement and good humour. She and Willem provided generously whenever I stayed in Amsterdam on my way to visit Joy Clancy and Margaret Skutsch at the University of Twente in Enschede. We will celebrate together when it is over.

Ruth Beecham was there at the beginning too, for which I thank her. Shamin Wickham provided an invaluable sounding board at a critical time. I learned from the way May Sengendo and Marielle Feenstra tackled their dissertations as well as enjoying their company. Those who got short changed in the name of friendship include Wendy Gaisford, Bev Gillespie, Marion Naisby, and Anne Saunderson Meyer. In the last four months there was little light relief, what there was, was provided by the delightful members of the Kalk Bay Book Club, and deliciously disorderly dinners with Julie and Elke Kirkwood. My adult children Bonnie and Terrence cheered from a distance.

There are two people who will be as relieved as I am when this is all over. The one is my sister Greta, the other is Don Helling. Neither could see any virtue in what I was putting myself through, but both were determined that having started, I should finish. For the past year Greta has phoned daily, sometimes three times a day, to check on my progress (or lack of it) and kept me constantly in touch with the important things in life; a paragraph from the book she was reading, her cat Sunshine's latest catch, her daily irreverent and screamingly funny take on the world.

Don provided everything I needed for this thesis, from constant supplies of chocolate and hot water bottles to the computer I worked on. I have learned about unconditional love from Don and I owe him immeasurably. I can't wait, I just can't wait to be the one

who goes to bed first, and for it to be my turn to look up from my book and say, “What took you so long?”



## **Dedication**

This thesis is dedicated to Maria Mbuli: 26.06.1969 – 3.02.2003.

Maria's alert, questioning mind, her dedication to her work, her easy laugh and relaxed being made her a pleasure to be with in the field. I miss her and will continue to miss her sorely.

Maria lived courageously with AIDS, struggling with determination and utter love to care for her son Simphiwe for as long as possible.

# Contents

*Declaration*

*Acknowledgements*

*Dedication*

*List of acronyms used*

<b>CHAPTER 1 Introduction</b>	<b>1</b>
Why women/gender and energy?	2
Women and gender in the energy sector	3
Women/gender and development	4
A feminist perspective	7
Terminology: third world, first world, north and south, developed/ underdeveloped	8
 <b>CHAPTER 2 The genealogy of international women and energy debates to 1990: development, energy for development, women and/in development, gender and development, women and energy</b>	 <b>12</b>
Development – a masculine project of modernisation?	14
Energy for development	17
Explanations for the failure of development to reach its goals and alternatives	20
Women /gender and development	28
Attention to household energy reveals the role of women and ‘women’s energy needs’ are defined	41
Solutions and adaptation to fuel scarcity	50
In summary	54
 <b>CHAPTER 3 A brief history of the location of women in the South African energy sector as it developed from pre-colonial times to 1990</b>	 <b>58</b>
Mostly men write about wood use in South Africa	61
Few women in the petroleum, coal and the nuclear fuel industries	64

A brief history of the electricity sector	67
Women and electric appliances	82
In summary	86

#### **CHAPTER 4 Progressive research, energy research and feminist research to the early 1990s** **89**

Anti-apartheid research, values and information dissemination	91
Renewables, progressive research and women	100
Mainstream energy research and state funding	104
The DMEA and the NEC	105
The Energy and Development Research Centre	110
The South African Energy Policy Research and Training Project (EPRET)	115
The status of feminist research in the early 1990s	122
Feminist research: on, by, about and for women	127
Empowerment and participation	130
Ethical feminist research	137
In summary	138

#### **CHAPTER 5 The emergence of women-centred energy research –the first three theses** **142**

Feminists all?	145
Representivity and access to resources	146
Feminist research methodology	151
Negotiating the research design	152
Context	153
Initiating the research and collecting the data	154
Decreasing the distance between researcher and researched?	157
Voice	158
Participation and empowerment	159
Reciprocity	161
Content	163
Household	165

The gendered division of labour	168
'Masculine' research – a comparison	175
In summary	179
 <b>CHAPTER 6 The Women's Energy Group and an experiment in participatory research</b>	 <b>181</b>
Rita Mfenyana, founder of WEG	182
The Women's Energy Group	185
WEG phase one: mid-1993: a women's group in the energy sector	185
WEG phase two: August 1994 to May 1995	194
WEG phase three: May 1995 – October 1995	203
WEG phase four: November 1995 – 1996	215
In summary	218
 <b>CHAPTER 7 Women, gender and energy research in the 1990s: a critique</b>	 <b>222</b>
EPRET (1992-1994) and gender	223
Biomass Initiative – Plant for Life 1991-1996	227
The Role of Electricity in the Integrated Provision of Energy to Rural Areas: 1995-1997	230
The Social Determinants of Energy Use in Low-Income Households in Metropolitan Areas: 1995-1997	231
Key trends in women/gender and energy research	234
Commanding labour	243
Multiple fuel use model	246
Fuel use patterns and food	248
Health and safety	249
Energy and women's income generation	253
In summary	255
 <b>CHAPTER 8 Engendering energy policy: a first attempt</b>	 <b>258</b>
Preliminary remarks about mainstreaming gender in policy	259
Energy policy and the insertion of gender in developed countries	261
Energy policy and gender in developing regions	262

Engendering the debate: gender sensitive/ gender aware/ engendered energy policy	266
Engendering South Africa's energy policy	272
Addressing women's participation, unequal access and subordinate status	279
Women's energy needs identification, planning and implementation	280
Health and safety	283
Research and development	283
The White Paper remains gender blind	284
The Women's Energy Budget	286
In conclusion	288

<b>CHAPTER 9 Reviewing the progress: multi-pronged interventions have increased women's visibility and participation in the energy sector</b>	<b>295</b>
Quality of life	298
Income generation	302
Non-formal learning	303
Gender, social relations and empowerment	305
Other strategies: can numbers do it?	313
HIV and AIDS	322
Conclusion	322

<b>Appendix: Constitution of the Women's Energy Group</b>	<b>329</b>
---	------------

<i>References</i>	333
-------------------	-----

## **List of acronyms used**

AEC	Atomic Energy Corporation
ANC	African National Congress
ANC-WL	African National Congress Women's League
CBO	community-based organisation
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CIDA	Canadian International Development Agency
CSD	Commission on Sustainable Development
CSIR	Council for Scientific and Industrial Research
DFID	Department for International Development (UK)
DGIS	Directorate General for International Co-operation (Netherlands)
DME	Department of Minerals and Energy (from 1995)
DMEA	Department of Minerals and Energy Affairs (changed its name to Department of Minerals and Energy in 1995)
ECC	end conscription campaign
ECI	Empowerment and Creative Integration, Pakistan
EDA	Environment Development Association
EDG	Energy for Development Group
EDRC	Energy and Development Research Centre
EPRET	Energy Policy Research and Training Project
ERI	Energy Research Institute
Escom	Electricity Supply Commission
ESMAP	Energy Sector Management Assistance Programme

GEAR	Growth, Employment and Redistribution programme
GAD	Gender and Development
GED	Gender and Environment
GDP	Gross Domestic Product
GNU	Government of National Unity
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HSRC	Human Science Research Council
IDB	Illicit Diamond Buying
ILO	International Labour Organisation
IMF	International Monetary Fund
INSTRAW -UN	Institute for Training and Research for the Advancement of Women
ITDG	Intermediate Technology Development Group (UK)
KZN	KwaZulu-Natal
MEPC	Minerals and Energy Policy Centre
MRC	Medical Research Council
NEC	National Energy Council
NP	National Party
NER	National Electricity Regulator
NGO	non-governmental organisation
NRI	National Research Institute
OED	Operations Evaluation Department
PDG	Palmer Development Group
RDP	Reconstruction and Development Programme
SAGEN	Southern African Gender and Energy Network
SAPIA	South African Petroleum Industries Association

SEI	Stockholm Environment Institute
SHS	solar home systems
SIDA	Swedish International Development Agency
SMME	small, medium and micro enterprise
TBVC	Transkei, Bophutatswana, Venda, Ciskei
TDG	Technology and Development Group [University of Twente]
UDF	United Democratic Front
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Aid Agency
VFTPC	Victoria Falls and Transvaal Power Company
WAD	Women and Development
WEG	Women's Energy Group
WHO	World Health Organisation
WID	Women in Development
WSSD	World Summit on Sustainable Development



## CHAPTER 1

### Introduction

This study constitutes a small part of a big picture. The big picture is the story of South Africa's transition from apartheid to a post-apartheid society. The small part is the emergence of women, both black and white, into the white-male dominated energy sector. Even though it constitutes only a small part in the transition, the picture cannot capture all the detail. It is painted from a particular perspective with broad brush strokes on a rough canvas. A framework is suggested; an analysis is proposed. Within each chapter there is a thesis (and a counter-thesis) to be written. I look forward to reading them.

In the third sentence above the dichotomies are set: black/white, male/female. In a society where race supersedes any other category of social organisation this is inevitable, and, for this study which enumerates growing proportions of black/white women in a (white) male dominated sector, necessary. I hope there will come a time when these categories are of mild and quaint historical interest rather than a key to accessing privileges and resources. However the study is mindful of the areas of grey, and much of the time is spent exploring blurred categories of black/white men/women co-operating, colluding and conniving to improve their own, and others', conditions.

The thesis starts at the turn of the century, when the majority of women, and in particular black women, remained in the background, invisible users of wood. Men had places in the public sphere and were establishing the electricity industry. It ends a hundred years later with the appointment of black women as Minister and Deputy Minister of what Fine and Rustonjee (1996:5) have called one of the most powerful sectors in the national economy, the Department of Minerals and Energy. Nonetheless institutional transformation is not necessarily accompanied by social transformation, and many women live in conditions similar to those of a hundred years ago, carrying wood and water for daily use, probably over longer distances and with greater danger from gender-based violence, than their grandmothers and great grandmothers before them.

It is this uneven nature of change that is of interest: the conditions that precipitated such a significant alteration of the race and gender composition of a previously male-dominated sector; the people, particularly women, and politics that contributed to this change. I am intrigued by the allies and opposition that women have met along the way, the obstacles they have had to face and the uneven successes they have achieved. The study looks specifically at women researchers, and the role research plays in precipitating and giving substance to shifting paradigms. Research is also a focus because it was considered an important anti-apartheid activity. There were two research organisations of critical importance to a change in the energy paradigm and to the emergence of women/gender and energy work in South Africa: the politically progressive<sup>1</sup> Energy and Development Research Centre (EDRC) and the National Energy Council (NEC), the research arm of the Department of Mineral and Energy Affairs (DMEA) under the old apartheid government. One of the ironies of apartheid regime was that the NEC funded the establishment of the EDRC, and the first three women-centred energy theses central to this study. The NEC was disbanded in the early 1990s and absorbed into the Department of Minerals and Energy Affairs which became the Department of Minerals and Energy (DME) in 1995. Much of this study is played out against the background of the EDRC and the DME.

Women entering the commercial, industrial and transport divisions of the sector through avenues other than research and the Department, are barely touched on. The last audit was done in 1994 (Ruiters 1995) and the progress of women in these sub-sectors has still to be probed, measured and evaluated.

### **Why women/gender and energy?**

Women have spent twenty years drawing links between women and energy (Tinker 1982; Cecelski 2001) and justifying why women should receive specific attention. I believe there are few causal links to be drawn between women and energy but any argument for women merely to be included in a generalised category of energy provision for 'the poor', denies the significance of gender relations in the sector as a whole, and of women as anything other than consumers of household energy in order to

---

<sup>1</sup> Members of the EDRC staff were sympathetic to the goals of the liberation movement, and racial equality in particular. After 1990 several were card-carrying members of the ANC.

fulfil their domestic productive and reproductive tasks. There is a great deal more to women and the sector, which needs to be identified. A cursory gender analysis of the positions that women hold along the energy chain, from production to end use, will reveal where women are located in relation to men. From the coal mines through to synthetic fuel plants, oil refineries, chemical laboratories, petro-chemical factories and petrol stations, the owners of the means of production and the senior employees are predominantly men. One glance, starting again at the coal mines, but moving this time in the direction of the electricity power stations, reveals the same male domination at power stations, transmission and distribution networks, planning offices, technical teams, and in boardrooms negotiating pricing and tariffs. At the time when new energy policy was being considered, biomass use (wood, crop residues and dung), which is where poor women are situated, accounted for only 10% of total fuel consumption in South Africa in 1993 (Trollip 1996: 2-2) and was not considered an economically significant sub-sector.<sup>2</sup> Women had little influence even in this energy sub-sector since even social forestry programmes and planning were male dominated (Aron et al 1989).

Historically women have thus been invisible/absent from the Minerals-Energy Complex, an enormously significant and powerful sector in terms of resources, wealth and essential services for human activity (Fine & Rustonjee 1996). In terms of South Africa's commitment to gender equality, spelled out in Chapter 8 of the Constitution, the government pledges to eradicate all forms of discrimination, including discrimination on the basis of sex or gender (Budlender 1996: 14). In terms of South Africa's ratification of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996, women should be able to participate on an equal footing with men and enjoy the same rights as men do in the sector (Tomasevski quoted in Budlender 1996: 18). It is the inequities in gender relations that have resulted in women and energy being an issue, and both require correction.

## **Women and gender in the energy sector**

It is necessary to draw a distinction between the way 'women' and 'gender' are applied in this study. Generally, albeit somewhat crudely, 'women' refers primarily to a

---

<sup>2</sup> In other developing countries biomass fuels account for 65-90% of total energy consumption (Parikh 1995).

biological category, for example women researchers, while gender refers to the socially constructed and maintained relations between men and women. The division is not always clear cut. Studies categorised as women-focused or women-centred, will be those which refer to the gender division of labour according to which responsibility for productive and reproductive tasks are allocated to women, resulting in women requiring fuel sources and energy services in order to fulfil their roles and responsibilities to children, men and other women.

In much of the international literature, gender refers to studies which include men and women as separate categories of users with specific energy needs (UNDP 2000: 5). I have attempted to use gender to refer to the relations between men and women. As will be seen there is a blurring in some studies which attempt to be 'gendered', and mention men and women in the attempt, but do not achieve any level of analysis of the relations between men and women, or the manner in which this determines the energy outcome. The analyses are seldom concerned with understanding the manner in which position, power, work and resources flow between men and women. They seldom observe, examine, deconstruct or explore reciprocity in domestic arrangements. One of the reasons for this is the difficulty of investigating and describing gender relations, and how these often function to maintain power hierarchies (PDG 1997). There is a lack of understanding of collusion and reciprocity in men's (and children's) roles in the household, and how these determine energy use patterns. There is also a lack of understanding of gender relations at the institutional level and how these operate to keep women in particular positions in the sector. This constitutes a major shortfall in women/gender and energy studies thus far, and is the reason for referring to most projects and programmes as women-centred rather than gendered.

## **Women/gender and development**

The *energy for development* literature, which is where much of this study is situated, initially focused on women's roles, the burdens borne by women, and the programmes and projects which fall within the women in development/ women and development (WID/WAD) frameworks. The international approach seeks means to alleviate these burdens, either through improved energy supplies, more efficient appliances, and/or opportunities for income generation which would afford women economic independence and a better quality of life (UNDP 2000). However it became apparent

over time that women's energy needs should not be treated in isolation, but be seen in the context of the societies in which they live (Annecke 1992; Makan 1994; Cecelski 1995; ECI 2000), and that a *gender approach* which takes account of the complementarity of men and women; how roles, work, responsibility and rewards are allocated between them, should be applied to all energy planning activities (ECI 2000). There are at least two possible ideological positions which can be taken in relation to adopting a gender approach to energy planning and policy making (Skutsch 1998; Cecelski 2001). The first approach views gender in development as an *efficiency* consideration rather than a political matter. Gender is recognised as playing a role in society, and planners are advised to take the differences between women and men's needs, desires and potential into account in order that these differences are accommodated and do not stand in the way of the project's success (Skutsch 1998; ECI 2001).

In the *equity* approach it is understood that women as a group are systematically socially and economically disadvantaged and that planned interventions should bring about greater equality between the sexes (Skutsch 1998; ECI 2001). Despite the fact that many country governments have signed UN agreements to this effect, among them CEDAW and the Beijing Platform for Action, few country interventions to bring about gender equality have been systematically planned, implemented and monitored.

Initially the South African approach to women and energy followed the rest of the developing world, and sought to ameliorate women's domestic burdens through improved stoves (Baldwin 1988). However the appearance of feminist researchers in the energy sector led to a preoccupation with whether the delivery of energy services or gender equality through the empowerment of women should be the goal of energy and development (James 1991; Makan 1994; Crawford Cousins 1998). This debate distinguishes South African women/gender and energy literature from most of its counterparts. South African studies invariably acknowledge that while lightening women's burden may be important, equality is unlikely to be achieved unless women's subordinate position changes. This is argued specifically in relation to the burden of domestic fuel management and cooking, but also with reference to women's location in relation to men, decision-making structures and economic investment in the sector. The unabashed challenge this presents, distinguished the early South African women/gender and energy literature from the international literature which is generally reluctant to

challenge power structures.<sup>3</sup> One of the reasons that the South Africans were able to formulate their responses in this way, was the political context in which the research emerged encouraged the articulation of women's issues (Interview with Mabuse, 2002). Another was that the early work (late 1980s-1995) was internally funded and thus South African researchers were not affected by donor agencies' sensitivities about how women/gender issues should be presented (Pietilä & Vickers 1994).

The historic reasons for the majority of northern donors being unwilling to be involved in the construction of, or challenges to, gender relations in energy projects are clear. Much of the early women and energy literature arose out of observations of funders or researchers from developed countries of the north working in underdeveloped countries in the south and in Asia (Cecelski et al 1979; Tinker 1980). White women, from donor organisations, have had to consider their own positions as post-colonial researchers, as well as the sensitivities of black women who do not want western notions of feminism or gender relations imposed upon them. Funding is often channelled through governments reluctant to have their internal affairs and gender relations scrutinised, even if they have ratified CEDAW and other conventions. In practice there are many individuals and organisations in the north and the south that believe that the differences between men and women are part of cultural heritage and social value systems which should not be interfered with (Annecke & Muller forthcoming). If they act at all it will be in a *gender sensitive* manner which looks to introducing some reforms which will alleviate the burdens of women, without upsetting societies' norms and values (ECI 2001).

Experience has shown that in many planned interventions, benefits which were intended for all, have been appropriated by men due their stronger bargaining position, such as woodlots being planted by women and the timber sold by men (ECI 2000). Critics have argued that in such cases the unintended consequences are due to the *gender blindness* of planners who do not pay attention to the internal dynamics of who benefits from increased product in the household. *Gender awareness* is used in the context of the equity approach – that it is not just women who need assistance, but the unequal social

---

<sup>3</sup> An exception to this was Joy Morgenstern who made a suggestion at the Village Power Conference in 1998 that the way to alleviate women's burden would be to put men in the kitchen for an hour or two every day. Her call went unheeded (Morgenstern 1998).

relationship which needs to be changed (ECI 2000). Positions have changed over the last decade, so that international women and energy programmes, previously focused on improved cookstoves, social forestry and income generating projects rather than individual human development, have begun to include projects such as one which facilitates women's entrance into the petroleum sector (Lele 1998). In South Africa the advent of international agencies has seen the introduction of such notions as the empowerment of women through the use solar stoves in their projects (GTZ 1997), which is analysed in Chapter 7.

### **A feminist perspective**

This study brings a feminist perspective to bear on women/gender and energy studies. Feminist in the sense of 'someone who believes in equality between the sexes and opposes discrimination against women' (Walker 1985: 30), which is a sufficiently broad definition to be able to include those women who would categorise themselves as Blackwomen or womanists (Chapter 4). The definitive characteristics lie in the activities of opposing discrimination whether it be through research, activism, and the desire to make a difference to the conditions of women. The goal of much research is to influence policy. This thesis explores the relationship between research, activism and policy development, and extent to which the women/gender and energy researchers and activists were able to use these links.

In South Africa, women came to energy studies through a variety of disciplines, from geography to health sciences, agriculture to sociology and nuclear physics. Few had knowledge of development theory and practice, even fewer had theoretical knowledge of gender studies or the WID, WAD, GAD<sup>4</sup> debates. This was partly because neither gender nor development were considered separate, legitimate fields of study. Both topics entered post-graduate fields of study at local universities from the late 1980s onwards, development studies somewhat later than gender. Thus many students and practitioners, while having a common sense idea of gender and development, do not have any theoretical framework in which to place their arguments or plan their strategies. This study attempts to begin a process of locating women/gender and energy

---

<sup>4</sup> Women in development, women and development, and gender and development. See Chapter 2.

within a gender and development framework. Concepts and practicalities familiar to gender and development workers: participation/ non-participation, visibility/invisibility, empowerment and disempowerment - are recurring themes in the study. Over-use has detracted from the political content of *participation* and *empowerment* and shifting interpretations are discussed at appropriate points.

### **Terminology: third world, first world, north and south, developed/underdeveloped**

Throughout the study the post-World War II understanding and perspective of 'developed' and 'underdeveloped' or 'developing' nations is used unless otherwise stated. The terms the 'north' and the 'south' are used as well as 'first' and 'third' world, usually with regard to the context and literature referred to. The terms are not used uncritically, but in the uneasy awareness of the (incorrect) homogenising function of these labels and the knowledge that, with reference to eastern Europe and Asia, they are not even geographically accurate. Nonetheless these terms remain useful indicators of power blocs and are used to indicate such.

**The study reads as follows:** Chapter 2 explores the relationship between international development literature, energy for development, and the WID/WAD/GAD frameworks; how the latter were adapted and inserted into energy for development programmes, the manner in which 'women's energy needs' were defined, and the initial suggestions on how to meet these needs. Chapter 3 examines, in some detail, why raising the profile of women in the energy sector was necessary. It explores the relations between men, women and energy-related activities and reveals the extent of the historic invisibility of women in all the sub-sectors and the marginalisation of black people from the mainstream energy economy. For most of the century women were neither stakeholders nor acknowledged as consumers of petroleum, electricity or biomass. An exception was in the electrical appliances market, where, especially post World War II, (white) women were solicited as customers.

Chapter 4 examines the nature of research and the relationship of progressive research to the apartheid government. It highlights the role played by research in changing the paradigm in the energy sector, when a few progressive men (and women) began to investigate energy supplies for the majority of South Africans, rather than for commerce and industry and middle class households. The majority of South Africans are poor, and



their primary energy requirements are for household purposes. Energy used for household purposes is primarily that used by women: thus in a few instances, women began to emerge as a consumer group, but they remained anonymous and homogenous, with quantitative research revealing little about individual or household energy consumption patterns. The differences between progressive research and feminist research begin to emerge. Male researchers, eager to find solutions to fuelwood shortages, took ready-made solutions (such as cookstoves and solar systems) into rural areas for women to use, and then were disheartened by their failures. Women approached the problem by determining how fuelwood users (women) perceived their problems, and analysing ways in which coping strategies could be supported and/or solutions could be found.

Chapter 4 also explores what feminist, activist research in the early 1990s entailed, and what kind of research was thought to make a contribution to improving the conditions of poor women's lives. The demands made by black feminists at the Conference on Women and Gender in Southern Africa 1991 gave direction on some points such as representation but little on methodology, content or how feminist research should be judged. International ideas about what constitutes feminist research are briefly explored in order to establish some measures by which the theses in the following chapter might be judged.

Chapter 5 analyses the relationship between feminist research and the energy sector. The first feminist energy researchers came from outside the energy sector and straddled an awkward divide. The energy sector required technically competent research, whilst feminist research required contributions to changing the social conditions of women. As a first step towards this, the three researchers described and analysed the status quo of energy use as part of the every day lives of poor women in urban and rural areas. This study evaluates the first three women-centered energy theses against the demands of South African feminists as well as against international understandings of feminist research – which changed over time.

The three theses explored, show awareness of the WID/women and energy concerns for meeting the needs of women who suffer from energy poverty. They also show awareness and provide examples of gendered, hierarchical, relations of power within the household, community and society which, although not directly related to energy needs, function to maintain and perpetuate women's subordinate position, and often her

inability to improve her own conditions. In this manner the theses raise questions about whether the provision of energy services or challenging structural power relations would contribute more to the goal of gender equality. All three theses advise that 'gender-sensitive policy' will be necessary to address the inequities in the sector. Although it was not clear what this meant, this was a timely call in terms of the preparations for new and equitable policies in all sectors.

The Women's Energy Group (WEG) was an innovative response to the lack of women in the negotiating forums that were constituted to develop new policies for the electricity and Liquid Fuels sub-sectors, in preparation for the new dispensation. WEG was established as a support group for all women working at all levels in the energy sector. It functioned in an ad hoc way without a clear strategy, responding to as many of the demands made on it as possible. One of these was for the development of household energy policy. Chapter 6 explores the relationship between feminists /women in the energy sector and the simultaneous development of state policy as a political and male dominated process. WEG's major contribution to the development of new energy policy lay in designing and conducting a consultative process for 'the poor' including women, and developing policy accordingly. WEG raised the profile of women as engineers and researchers as well as household consumers.

Chapter 7 critiques other women/gender and energy research and programmes in the 1990s, which, if not self-consciously feminist, were concerned with issues of empowerment and equality as well as delivery. This concern with tackling patriarchal and hierarchical power was as much of an issue for community based women as it was for intellectuals and researchers. This was evident in the KwaZulu-Natal workshop when women demanded the right to own and inherit land, and an end to oppressive customs as a means to solving their energy problems (James 1999). It was also evident at the Rural Development Forum in 1995 when women representing community based organisations demanded that a 30% quota of women be mandatory on all decision making forums concerned with energy and development.

Chapter 8 analyses the difficulties of *engendering policy* in the energy sector both internationally and locally, and reviews the suggestions and expectations in the literature of what this might mean. In South Africa the relationship between women and the development of energy policy was defined in terms of their (lack of) technical skills and capacity as well as by the political process and the overpowering influence of men

in positions of authority. A strategy to deal with hierarchical power was needed but not forthcoming, and the efforts to engender new policy in South Africa were disappointing.

Through the progression of the chapters, women emerge as researchers and not just users of household energy. They have also begun to enter the commercial and industrial sectors in increasing numbers, occupying higher positions of authority and decision making. The final chapter reviews the progress made by women at various levels and through multi-pronged interventions, considering the extent to which solutions have been successful in improving women's lives and changing inequitable relations. It first evaluates the extent to which poor women's energy needs have been met through the delivery of grid and off-grid energy services, and whether the ability to command labour and share tasks would make a difference to domestic burdens. It then notes the degree to which women have become visible participants through increasing the numbers of women in the sector and senior appointments. One of the suggestions for the future is an audit of this phenomenon and, in particular, of the institutional obstacles women face in the light of the failure of an innovative attempt to confront sexual politics in the workplace. The founding of Energia, an international network devoted to gender and sustainable energy in 1995, has provided growing international support for women working in energy sector. South African women could use the local regional network to support their efforts to have women recognised at policy levels.

The study closes with some recommendations on how the relationship between research and policy should be strengthened so that policy reflects the government's commitment to gender equality and is suitably resourced.

## CHAPTER 2

### **The genealogy of international women and energy debates to 1990: development, energy for development, women and/in development, gender and development, women and energy**

**‘Development can mean just about everything.... It is a concept of monumental emptiness carrying a vaguely positive connotation’ (Sachs 2002: 14).**

The first half of this chapter is devoted to a history of development and broad criticisms thereof, including the emergence of a feminist critique of development. This history may be considered both too simplified (considering the vast field it has become) and rather too protracted. The reason it has been presented in this way is because *woman and energy* is a new and marginal field of study, only thirty years old at most, and remains for the most part untheorised. The history is provided to suggest a feminist perspective and lineage. Internationally women working in energy have come from a variety of discipline backgrounds; economics, technology development, agriculture and forestry. The strongest discipline influence has been from mainstream economics with its particular emphasis on the contribution of energy to women’s income generating projects. Few contributors have had any grounding in feminism or development: formal training in development studies is a recent phenomenon and there is as yet no academic qualification in women/gender and energy studies. There were feminists such as Irene Tinker who brought an early gender perspective to fuelwood studies but it was quickly overtaken by economists and planners with a stronger interest in economic growth than in challenging the structures of subordination and oppression. This led to a particular interpretation of women and energy as a field of study internationally. In South Africa, the first women and energy studies were conducted by feminists, and produced, at least initially, a different interpretation of what women/gender and energy might mean. This is dealt with from Chapter 4 onwards. The first task is to establish the international lineage.

The chapter reviews some of the vast literature on development, energy for development, women in development (WID), women and development (WAD), and gender and development (GAD), leading to the development of the field of study designated *women and energy*. The purpose of the review is to explore the context for the emergence of women and energy as a field of study, the hypothesis being that development, including energy for development, while it appeared gender neutral, was predominantly a masculine domain, planned and implemented primarily by men, and furthermore, that while it was targeted at uplifting the general category of *the poor*, the intended benefits did not reach poor women in sufficient numbers to meet development objectives (Boserup 1970). The emergence of women as a specific category for development aid, was due in part to the failure of development to reach its goals and therefore a re-examination by some developers of their gender blind strategies. It was also due to the growing awareness of human rights and feminism which demanded inclusion in development planning for the female half of the target population (Sen & Grown 1988). Exactly how women should be taken into account has been the subject of much debate and several trial-and-error practices. These have been categorised into five phases within the WID/WAD/GAD frameworks (Moser 1993; Bakker & Skutsch 1995) and are briefly explored further on. In the second half of the chapter, women's initial invisibility in *energy for development* is reviewed, and the reasons for their emergence in the household energy sub-sector are explored, as well as the manner in which initial interest shaped the field of women and energy international literature up until 1990.

The literature review has five primary objectives:

1. to explore the extent to which early (international) development, and specifically energy for development, was defined by and for men, and to what extent women participated in it;
2. to examine the emergence of women as a category in the critiques which developed as a consequence of the failure of development to achieve its goals, and the WID/WAD/GAD approaches which emerged;
3. to explore the emergence of poor households as a category of consumers when large energy for economic development endeavours failed and the further disaggregation of women as energy users in these poor households;

4. to examine the ways in which women and energy problems and solutions were defined, thereby establishing a minor field of study;
5. to provide a context and background against which to understand the similarities and differences in the ways in which women/gender and energy for development debates emerged in South Africa as opposed to the rest of the world.

### **Development – a masculine project of modernisation?**

In President Truman's inaugural address on 20 January 1949, he called for 'developed' nations to make available 'the benefits of our scientific advances and industrial progress' for the improvement and growth of 'underdeveloped areas' (Sachs 1992: 6). For the purposes of this study, this event marks a convenient starting point from which to explore development theory and practice, although it has been argued that the origins of current development philosophy can be traced back much further to the advent of industrial capitalism in the fifteenth and sixteenth centuries and increased international trade (Williams 1983: 103; Leys 1996: 4). However the Truman date is used because it is also convenient in terms of marking a divergence in the meaning of development in international mainstream development discourse and in South Africa. In 1948 the Herenigde National Party<sup>5</sup> defeated Jan Smuts' United Party with a promise to preserve white, and specifically Afrikaner, power in South Africa (Wilson & Thompson II 1978: 239), thereby setting the country on a political path which would see it isolated from the rest of the continent and the world. As part of the National Party government's institutionalisation of apartheid ideology, the concept *development* took on the sinister meaning of *separate development*. Over the next forty years the Minerals-Energy Complex underpinned the political economy of South Africa including the state's efforts to enforce separate development (Fine & Rustonjee 1996), and secured the vast resources and wealth of the energy sector firmly in the hands of the government, its parastatal institutions and white businessmen. The role of the energy sector in South Africa's development is explored further in Chapter 3.

Development has many meanings. The underlying belief and development philosophy of the 1950s and 1960s, (and to a large extent the following thirty years too) was a deep

---

<sup>5</sup> In 1951 the party was renamed the National Party (NP).



belief in the good and necessary modernisation of all 'underdeveloped' countries; a process which would allow traditional societies to take their places alongside western ones (Hadjor 1993: 99); a linear<sup>6</sup> advancement of western scientific progress and industrialisation so that the under-developed countries could 'catch up' with the developed countries to the advantage of all (Mies 1989: 169). The fundamental goal of the development project was change: to bring all countries up to equivalent levels of economic and social modernity so that (western) civilisation could continue on its inexorable, natural and correct path with universally aspired to common goals (Kabeer 1994: 16). To this end the United Nations (UN) launched the First Development Decade at the beginning of the 1960s (1961-1970). This declaration was intended to embrace all people in developing countries and contained no specific reference to women as a group requiring special attention. The second, the International Development Strategy for the Second Decade, had a brief reference to the importance of including women (Kabeer 1994: 1) – an admission that women had not received equal or sufficient attention in the first ten years.

Specific agencies were established by (and housed in) developed countries to fund and implement development in under-developed countries. The most important multilateral aid agency, the World Bank, exerts the greatest influence on development thinking (Goldemberg et al 1987: 18). Other role players included the International Monetary Fund (IMF) and various departments such as the Development Programme of the United Nations (UNDP). Over time many governments in the north established departments dedicated to overseeing development funding and projects (DIFD, CIDA, DGIS, GTZ, SIDA, USAID etc) and non-government development organisations such as Oxfam and ITDG also appeared. These institutions are important in that they developed their own gendered corporate cultures and gender profiles (Jahan 1995), which influenced the ways in which they approached energy for development, and women and energy issues in particular. The employment of experts in 'home' countries has had long term and probably unintended consequences. What were intended to be co-ordination offices to promote economic growth and development in the third world,

---

<sup>6</sup> Linearity as a particularly masculine mode of thought is raised under feminist research methodology (Chapter 4), and in a woman's (Ross') critique of linear energy transition theory described by (Mr) Viljoen (Chapter 5).

have become substantial bureaucracies. They provide jobs in both the home and recipient countries for administrators in an on-going multi-million dollar business that has been perpetuated alongside development efforts (Goldemberg et al 1987). In the 1950s and 1960s experts in planning were sent from these organisations in the north to assist the south, and economic development and planning became major pre-occupations of most third world countries. Development agendas were set largely by the funding countries. Since few objections to donor funds were lodged in recipient countries, it could be said that developing countries colluded with, rather than defined, their own development (Crush 1996).

Rogers (1980) found that development planners were mostly men, and carried their (western) expectations of what women should and should not be and/or do into their planning, so that stereotypical (western) notions of training (such as domestic skills for women and income generating skills for men) became part of planning for developing countries (Rogers 1980: 35). This has provided grounds for arguing that the gender<sup>7</sup> of planners is socially and economically significant (Pietilä & Vickers 1994). Further evidence that a masculine norm prevailed in development, is that until recently (Jackson 2000) there has been very little 'men in development' literature. It has been women who had to be made visible and added in, for although the target group was ostensibly 'under-developed' men and women, ultimately it was men who benefited most (Goldemberg et al 1987: 9). The benefits and privileges of power, position, finance and resources, passed most easily from elite men in offices of the first world, to elite men in offices in the third world (who were not averse to receiving them) (Sachs 1992: 132). Women may not have been maliciously or even deliberately excluded from development; they were simply invisible as actors to most sector planners (Kabeer 1994: xi). Male recipients in developing countries were viewed as household heads and productive agents worth investing in, while women were perceived to be housewives and mothers who required assistance primarily in those capacities in which they were most engaged (Jaquette & Staudt 1988). Thus health (especially population control) and food production were sectors where women were included in policies (Kabeer 1994: 4).

---

<sup>7</sup> Women planners would not necessarily be less conservative or conventional than men, or more gender sensitive – this point is taken up later.



## Energy for development

The conventional wisdom of the 1950s and 1960s (which persists in many circles today) equated development with economic growth (Goldemberg et al 1987: 21). Economic growth required, among other things, a modernised energy sector and it was assumed that electrification and increased consumption of petroleum products was essential for industrialisation and economic growth. Indeed increased energy use was considered an indication of improved human welfare<sup>8</sup> (Goldemberg et al 1987: 6). Very few of the developing countries had electricity generation capacity,<sup>9</sup> and the opportunities and potential for developing electricity supply industries proved irresistible. In the decades following World War II, energy for development accounted for about 25% of the World Bank's total lending (Goldemberg et al 1987: 18), and most of this money went to large development projects. Over 90% of energy for development aid has been for the delivery of large scale infrastructure; that is the construction of huge dams for hydro-power systems of electricity generation and grid networks for transmission to urban areas or proposed commercial and industrial sites (Goldemberg et al 1987: 18). These constructions were the responsibility of engineers, and since there were relatively few women engineers even in the developed countries, in this area too, men predominated. The energy consumption patterns or concerns of actual users in developing countries were given little attention in this energy planning. This was an error since more than half the world's population lived in villages and small towns and relied on fuelwood, crop waste and dung for energy (Goldemberg et al 1987: 11). Less than 15% of these households were electrified, nor did they reside within areas that would be reached by the new electricity grids (Goldemberg et al 1987: 11). Since there was little sustained use of electricity by profitable commercial, manufacturing and/or industrial enterprises in many developing countries, and the number of household connections was insignificant, these early attempts at modernising the energy sector did not bring about the anticipated economic growth and upliftment to developing populations (Goldemberg et al 1987).

---

<sup>8</sup> Since the oil crisis of the 1970s economic growth has been delinked from increased energy consumption (Goldemberg et al 1987: 17).

<sup>9</sup> South Africa was an exception in Africa; this is explained in Chapter 2.

Criticism of mainstream energy for development strategies (supply side frameworks) were not common, but in 1987 Jose Goldemberg, Thomas B Johansson, Amulya Reddy and Robert Williams published their books, *Energy for a sustainable world* and *Energy for development*, which have become the seminal texts in offering an alternative perspective.<sup>10</sup> The books suggested an alternative strategy, end-use analysis, for achieving a wide-spread shift from inefficiently used, non-commercial fuels to modern, tested commercial technologies in developing countries with the aim of raising living standards without the equivalent (and crippling) growth in energy consumption. Goldemberg et al (1987) tackle the issue of significant income differentials too. They pose the problem in terms of the interests of the elites in both the wealthy and the poor nations, dominating energy consumption and planning, and neglecting the energy needs of the majority of the population who are poor (Goldemberg et al 1987: 9-10). In essence they advocate an end-use approach to energy as instrument for development and the efficient use of energy but particularly renewable systems, to meet energy demand (Goldemberg et al 1987: 69). At the time Jose Goldemberg was President of the University of Sao Paulo, Brazil. Thomas B Johansson was Professor of Energy Systems Analysis, Environmental Studies Programme at the University of Lund, Sweden. Amulya Reddy was Chairman, Department Management Studies at the Indian Institute of Science in Bangalore, India and Robert Williams was Senior Research Scientist at the Centre for Energy and Environmental Studies at Princeton University, New Jersey, United States of America. These four men became known in energy circles as The Gang of Four, the doyens of renewables<sup>11</sup> and champions of the poor. They have constituted a formidable force in arguing for the insertion of renewables into world energy supply and the promotion of sustainable energy use. Diverse though their locations appeared to be, representing the north and south, east and west, the four men had similar standing in their research communities. Lacking from their analysis is any disaggregation of the poor; there are no women either among the authors or among the consumers other than

---

<sup>10</sup> This is the reason for the extensive use of Goldemberg et al; their early recognition of end-user rather than supply-side perspectives, their attention to the needs of the poor, and their strong drawing of links between energy and the environment and sustainability.

<sup>11</sup> Those natural resources – water, wind, waves and the sun which can be harnessed to generate electricity without depleting the environment.

a note that women and children spend time on the collection of firewood (Goldemberg et al 1987: 11).<sup>12</sup> Goldemberg et al (1987) do not understate the problems of vested interests and the political economy of energy but they are optimistic that the scenario they suggest, which includes assisting developing countries to be more self-reliant, is the ethically correct and economically obvious one to adopt to address the failures that were so prevalent at the time.

Energy was not the only sector which suffered disillusionment. It was thought that improvements in the economy such as those brought about by industrialisation would 'trickle down' to the benefit of all (Goldemberg et al 1987: 18). However, by the end of the 1960s little improvement in the lives of the poor could be measured, and by the end of the 1970s conditions had actually worsened (Goldemberg et al 1987: 22). Despite generally improved gross domestic products in many developing countries (and more clothing, schools, hospitals, airports, telephones and other trappings of development) projects repeatedly failed to achieve their goals (World Bank 2001). In many parts of the developing world, income differentials and population appeared to have increased rather than decreased, the number of poor increased and the conditions under which many lived deteriorated rather than improved (Goldemberg et al 1987: 22). Africa, in particular, began to lag behind other developing countries (World Bank 2001: xiv). Since the objectives were improvement and 'catching up' with the developed world, findings which demonstrated the opposite clearly indicated a need to re-think development strategies.

Critiques were forthcoming from a variety of sources and directions. Development, which had initially involved more practical activity than theorising or academic debate, has proved to be a field plentiful in pickings from almost every perspective. Academics in disciplines other than economics entered the debate, albeit as poor cousins, among them social anthropology, sociology, geography, environmental sciences and gender studies, the blood lines of each becoming incestuous with several generations of theoretical trends co-habiting in development planning offices. Interpretations of development were reflected upon, underlying assumptions were unpacked, and methodologies examined (Sen & Grown 1988; Sachs 1992; Crush 1996). As one

---

<sup>12</sup> Later work adopts a patriarchal approach to women (Reddy et al 1997).

approach failed, so another was tried. When the Green Revolution failed to deliver to the poor in the 1960s, the World Bank was accused of putting mechanistic economic measures ahead of human lives and improvement in living standards (Sutcliffe 1999: 138). The UN Development Programme's Annual Human Development Report and focus on Basic Human Needs of the 1970s was intended to counter the World Bank's narrow focus. The philosophy behind the Human Development Report was Amartya Sen's notion of development as 'the expansion of the capacity of human individuals to live fulfilling lives' and was set within the context of the growing tendency to present development goals as human rights (Sutcliffe 1999: 138). This constituted a significant shift from economic catch-up ideas, and produced a rapid expansion of development literature to include different means of measuring and describing poverty, the alleviation thereof, and factors which affect and measure the quality of life.

### **Explanations for the failure of development to reach its goals and alternatives**

The following brief analysis of some of the critiques and the solutions offered, examines the place of women in the debates which arose as a consequence of the failure of development to achieve its goals, and identifies those which have resonance in the WID, WAD and GAD development debates, and which ultimately filtered through to the women/gender and energy arena.

By the 1980s, most intellectuals, including those at the World Bank, acknowledged that underdeveloped countries had not followed, and are not likely to follow, the predicted path of industrialisation and economic growth that the north did (World Bank 2001). Although the modernisation paradigm still holds great attraction and has many adherents especially among implementers of development projects, critics in the 1980s sought to offer a broad set of explanations for the failure of development, ranging from dependency to discourse theory. Dependency theorists explain the failure of development as an inherent characteristic of the manner in which international trade and investment links serve not as a means of growth but as a mechanism for perpetuating the need for development (Sachs 1992). Elson (1988) suggested a more nuanced approach. She showed how, although trade and investment are practised and experienced in conditions of profound inequality of wealth and power between nations, they may be necessary, or even inevitable and may, at least in some cases, permit

development. Elson was seeking some way out of what has become the known as the impasse in development theory of the 1980s which represented a stalemate between modernisation and dependency approaches (Munck & O'Hearn 1999: Preface). Elson is a leading feminist economist who has had significant influence on feminist development thinking and is referred to further on.

The impasse between the modernists and dependency theorists produced a further series of critical perspectives. From the variety of solutions offered to improve development, two broad thrusts of criticism can be distinguished: those critics who are disillusioned with development and are scathing in their criticism, and those who think development has failed but could succeed if thought about and done in different ways. These included engaging in post-colonial, postmodern, ecological and feminist critiques to reveal the legacies of contested power, and to challenge the power of development as a particular form of discourse which presents and re-invents itself as the solution to problems. Calls for greater participation by women in development policy, planning and projects fall within these calls for alternatives ways of 'doing development'.

Disillusionment with the theory and practice of development led in some cases to a complete dismissal of the enterprise by such anti-development authors such as Latouche (1991), Escobar (in Sachs 1992) and Sachs (1992). The anti-development theorists argue that it is not possible to find a way out of the impasse within the current ideological framework, and that the philosophy underpinning development is unlikely to work because the assumptions on which development theory rested in the 1950s are no longer valid in the fragmented post-colonial third world (Sachs 1992). This group of anti-development scholars situates responsibility for failure *between* the north and the south rather than with one or the other (Leys 1996: 71). One of the shortcomings of development, Leys argues, is that too little attention had been paid to the conditions and responses of developing countries to development. This is a criticism taken up by women in development, and has relevance to the women/gender and energy debate later on. Leys (1996: 77) points out that most modernisation theorists are at pains to ignore social classes and revolutionary movements as central phenomena of third world politics. He questions whether characteristics of dependency are due to the insertion of developing economies into the international arena, which is in considerable disarray, or have primarily to do with domestic considerations. Drawing on MacGaffey, Leys (1996: 181) makes a useful distinction between 'real' capitalists and those politicians, civil

servants and military who use their political power to get rich. Leys puzzles over how to deal with these new classes, whom Fanon\* called the 'bourgeoisie of the state', and their positions in development. Furthermore Leys (1996: 27- 44) argues that the present impasse in development theory and the unfolding tragedy in Africa, are not due to the working out of an inexorable law of economics but, to a significant extent, to politically motivated decisions, such as setting capital free to pursue profit wherever it wishes and on whatever terms it can impose, and to the rationalising of a particular brand of development theory (neo-liberalism) which assigns all initiative to 'the market' (ie to capital). The role of the market is a debate which few involved in poverty alleviation can avoid, and the views of women engaged in energy projects is discussed in Chapter 7 (Clancy 1999; Skutsch 1998).

Even anti-development theorists find it difficult if not impossible to abandon the project of development entirely, so they provide a number of alternatives. Each of these has at its core that the north should withdraw its directives and that developing countries should manage their own development (Escobar 1992). Alternative development strategies appear to fall within one of four broad themes. Each has resonance within women and development approaches and further downstream each has had an impact on the way the contribution of energy and women are perceived and treated in development projects.

One of the alternatives suggested is to *change the paradigm* so that it is not one of capital accumulation and growth (Tinker 1990; Leys 1996). Nerfin (1977) provided a critique which called for a new economic order which would bring about greater equity in the distribution of the world's resources, while Weaver et al (1989) provided a critique of the competing economic theories embedded in development paradigms. Leys pointed out that an alternative economic system could be some form of socialism or it could be some form of social order yet to be imagined. While this project has growing support among anti-globalisation protesters, environmentalists and supporters of organisations such as the Jubilee 2000 campaign, and even among gender and energy writers (Tinker 1990; Crawford Cousins 1998; James 1999; Annecke 2002) this thinking is, as yet, only a fringe irritant to mainstream development politics.

A second group argue for doing development differently: to permit space for the Other to be valued, taken more seriously and included in the discourses of their development. A constituent of this debate are questions about who has the power to define not only

the Other, but other ways of knowing. The argument following the course that indigenous people should use indigenous knowledges, language, customs and cultures of ordinary people in developing countries to determine their own futures. In an essay entitled 'Development and the locations of Eurocentrism', Ziauddin Sardar (1999: 135) says:

The real power of the West is located not in economic muscle and technological might. Rather it resides in its power to define.... The problem of Eurocentrism and hence the problem of development, is thus the problem of knowledge. It is a problem of discovering Other ways of knowing, being and doing. It is a problem of how to be human in ways Other than those of Europe. It is also a problem of how the west could liberate its true self from its colonial history and moorings.

Similar arguments had been put by Said (1979) and may be found in anthropological and postmodernist feminist challenges (Parpart 1996). They carry considerable authority in the women/gender in/and development academic debates discussed later, but their practical application in the energy sector has yet to be felt. An overlap with the position of discourse analysts may be discerned in the above, in that discourse analysts call for a review of the creation and recreation of development through discourse in a number of ways including giving more attention to indigenous discourses. Discourse analysts accused development planners and workers of being post-independence re-colonisers, and their (discourse analysts') views on the subject are compelling:

Development is a process whereby other peoples are dominated and their destinies are shaped according to an essentially Western way of conceiving and perceiving the world. The development discourse is part of an imperial process whereby other peoples are appropriated and turned into objects. It is an essential part of the process whereby the 'developed' countries manage, control, and even create the Third World economically, politically, sociologically and culturally. It is a process whereby the lives of some peoples, their plans, their hopes, their imaginations, are shaped by others who frequently share neither their lifestyles, nor their hopes nor their values. The real nature of the process is disguised by a discourse that portrays development as a necessary and desirable process, as human destiny itself. (Tucker quoted in Munck & O'Hearn 1999: 1)



Raymond Williams' comment on development is pertinent here too:

It is that, through these verbal tangles [of developing and developed countries], an often generous idea of '*aid* to the **developing** countries' is confused with wholly ungenerous practices of cancellation of the identities of others, by their definition as *underdeveloped* or *less developed*, and of imposed processes of development for a world market controlled by others. (Williams 1983: 104, emphases in the original)

A third group of writers put their faith in the power of social movements as the only forces capable of bringing forth change. Leys's (1996: 81) own solution falls within this category of social mobilisation:

If development theory is to be useful and interesting again it must focus carefully on these decisions and consider ways and means to re-create a world in which it is once again possible to pursue social goals through the collective efforts of the societies and communities to which people belong.

Escobar agrees that collective effort is necessary but at the same time he dismisses what he calls 'these new trends' as 'fashionable'. Among these he includes the sustainable development paradigm and efforts to incorporate women, and/or grassroots organisations into development in the 1980s (Escobar 1996: 225). This ready dismissal is perhaps premature. The power of social mobilisation has been considerable (Taylor 1997). The mobilisation of women under the banner of feminism, the women's movement and/or other labels has made a profound difference to millions of women's lives. While collective action does not always accomplish its goal, strikes and boycotts against the electricity sector in South Africa, for example, have been effective, and have resulted in changes (Taylor 1997). This has also been the case in environmental issues which have been closely linked to biomass – the energy issue of poor women. The green belt movement in Kenya led by Wanagari Maathai, and the Chipko movement in India are examples of protests which could be described as successful social movements against state decisions (Rodda 1991: 110-1). Roxas (1996: 22) is one of the authors who understand 'sustainable' to form part of a package of desirable qualities for future development. These qualities are described in antithesis to the unsustainable and top-down development that has occurred thus far. They call for a whole new organisational



culture, in which social mobilisation is essential to implement equitable, sustainable and participatory development with the aim of social transformation. Gender equity should be one of the goals of this social transformation.

A fourth group is convinced that development can be achieved only by people themselves desiring it and engaging practically (Leys 1996; Sato 1996; Douthwaite 1999). Leys (1996: 134) believes that 'in the last analysis [of what makes development successful], solutions will not come from anywhere but Africa'. Douthwaite (1999:174) rejects external investments altogether, advocating that people find their own resources;<sup>13</sup> Turid Sato, while not advocating complete withdrawal of international funding, offers a lucid description of her experience:<sup>14</sup>

After 25 years in development I have come to conclude that the current model of development is fundamentally flawed. Transfer of resources is not sufficient; while it may be spurred by catalytic forces from the environment, development is a process which comes from within. People and countries have to take responsibility for their own development, for the design and implementation of the visions and priorities that will create the kind of community they would like to leave for future generations. Thus, the role of development assistance must change to encourage more participatory processes in support of the overall goal of enhancing the countries and communities ability to develop themselves. (Sato 1996: 158)

The emergence of women in development theory and practice has been accompanied by calls for greater participation and empowerment for women. A problem with most of the solutions on offer, whether they call for putting politics or the political economy back

---

<sup>13</sup> Those engaged in the anti-apartheid movement may remember that such a call, for no international funding to be accepted for the struggle in South Africa, was regularly made by a group including churchman Beyers Naude, who believed that South Africans should be self-reliant rather than accept funding which would undermine their integrity and ability to provide for themselves in the longer term.

<sup>14</sup> It may be worth remembering that with less development aid than Africa, the Asian Tigers, India, Israel and southern Europe appear to be in less dire straits than Africa (other than South Africa).

into the equation or recommend the postmodern contribution to rethinking the paradigm, or advocate the inclusion of women, is that they are offered primarily by the developers from the north,<sup>15</sup> and depend on donor organisations perceptions of what should be done.

The assumption is that people 'want' development, in whatever guise it is offered. Kloot, testing this assumption in South Africa in 1999, found it to be overwhelmingly the case (Kloot 1999), and moreover the expectation was that the delivery of infrastructure would be accompanied by the acquisition of brand name personal effects. Illich (1992) comments that where once water slaked a thirst, now a Coke is required, and the reality is that often neither is available but the aspiration persists. The desire for development as economic prosperity and the dilemma it creates in those who have obtained it, and who have seen the demise of sustainable cultural practices through such progress, is raised and acknowledged here because it is an underlying dilemma in many of the development debates for economic growth and income generation without being fully explored. The dilemmas and contradictions are nicely counter-posed in two chapters in Crush (1996): one by Escobar the other by Shrestha. Anti-development theorist Escobar begins his chapter 'Imagining a post-development era' in Crush (1996: 211) with a quote from Thoreau: 'If I knew for a certainty that a man was coming to my house with the conscious design of doing me good, I should run for my life...for fear that I should get some of his good done to me.' Yet he continues within the same chapter describing the inevitable internalisation of development and the 'need to be developed' by people in the south.

In the essay 'Becoming a development category' Shrestha (1996: 266-277) gives a poignant account 'of my own seduction': how impressed he was by, and his total desire for, the shiny desks and books and new buildings that were flown into his Nepalese village when he was a child in the 1950s, and how he didn't consider his education complete until he had a bursary to continue his studies outside the country. It was only on his return that he saw and understood the degree to which development has dehumanised the Nepalese. Shrestha realises that his solution for undoing the damage, 'unlearning the Western values and development thinking which has infested our

---

<sup>15</sup> NEPAD, the New Partnership for African Development, currently proposed as the African solution to development, lies beyond the time frame of this chapter.

minds' and 'relearning' different mindsets will not ring true for everyone and will be 'very bitter medicine' for most. The irony of course is that both Escobar and Shrestha know, from different perspectives, that Shrestha 'should have run a mile rather than have good done to him' but that in the beginning he was impressed by the 'bag of tricks' and once the need for development has been internalised it cannot be refused until it is 'too late'. The consciousness of not needing development is not *a priori* to development – it is post the deed. In a similar vein Sinith Sittirak's *The Daughters of Development: Women in a changing environment* (1998) provides a blasting indictment of development in Thailand.

On the other hand there has been little probing aspirations or responsibility for self-development, self-reliance or reciprocity (Goldemberg et al 1987). It is unlikely that the paradigm will change until there is a critical mass of not just anti-development theorists, but a significant social mobilisation of civil society behind such sentiments. Until then the mainstream liberal or neo-liberal thrust continues. While Shrestha deconstructs his own seduction in Nepal, and Sutcliffe (1999: 138) reiterates questions about one's right to water or a Coke to slake one's thirst, South Africa has produced its own development dilemma in the energy sector. Where previously sufficient and accessible woodfuel may have been acceptable, electricity is, quite legitimately, demanded.

Africa was a particularly negative example for development experts of substantial financial but poor human investment (World Bank 2001), delivering negative growth in the 1980s. There is still not a model for development that addresses poverty in Africa. The assumption that an increase in national gross domestic product would benefit all, has proved unfounded. It was assumed that through the 'trickle down' effect some improvements for those at the bottom of the pile would be felt. Although more food, clothing, houses, educational facilities, energy supplies and better health care are more widely available in developing countries in 1990 than they were in 1950, these benefits have not been equally available to all, and the number of poor has increased faster than the number of beneficiaries. In general the elites, who have been largely men, have had better access to more services while the conditions of many of the poor, and especially poor women, have deteriorated in terms of access to resources such as firewood and land (Cloud 1985: 39).

Critics of development and the experience of failure have had some effect. One of these has been, at least theoretically, the demise of the grand narrative of development, and

the 'pure' modernisation paradigm, providing, from this impasse, a space into which alternative economic ideas, women, postmodernism and the environment have been inserted with various degrees of success.

The following section provides a brief overview of the women/gender and development trends up to the 1990s, in order to assess the impact these have had on the initial descriptions of women and energy.

## **Women /gender and development**

One reason that women began to be inserted into development thinking and literature was in response to the repeated failure of development projects to bring about the development intended. Women (and some men) argued that part of the reason for the failure of development was that development planners ignored the fact that at least half of the population were women, many of whom had different requirements to men, especially male development planners. This, in combination with the emergence of the international women's movement as a powerful political force, and the work of economist Ester Boserup (1970) whose seminal study showed how women's conditions had deteriorated and argued for development policy makers and planners to recognise and account for women's contribution to economic development, propelled women onto the development agenda (Visvanathan 1997: 3).

Defining exactly whether or what constitutes 'woman', and what makes her different from men and from other women, and what different women's developments requirements might be, has sparked a long series of debates. The key shifts in development thinking have been precipitated by the acknowledgment that men and women are defined not only through their biology (sex), but also by their relation to other men, children, other women, and the society in which they live. Although women/gender issues are still seen as women's business (Bryden & Chant 1989; Cecelski 1995) and there is still resistance to incorporating women/gender and development studies into the mainstream of development planning, there is growing public awareness of the debate. It has become common practice to put women on the agendas of international meetings even if their issues are not always directly addressed, as was the case at the World Summit on Sustainable Development in Johannesburg 2002 (Report on the WSSD from the Women's Caucus email 8 October 2002). In the literature women rarely feature as authors of mainstream development literature,

appearing instead as chapter authors, and as authors of books on women in development.

Men, who are still the primary planners, implementers and writers in development appear to have had difficulty in grasping the totality of the shifting sands of feminism and engaging with women struggling to make their voices heard, especially since there are many women with many voices, saying different things. Men have shown themselves willing to engage with the complex issues of race and class, but have shied away from getting to grips with gender. Shifts in the meaning of development and gender have not assisted the cause, nor has the fact that this is an evolving field, full of contradictions and overlapping positions (Munck & O'Hearn 1999). The deconstruction and description of masculinities is a recently popular phenomenon (Connell 1995), and to date literature written by men which deals with men's position in development remains scarce. Women have begun to write about men's roles (Whitehead 2000; Silberschmidt 2001). As this literature grows it may assist more men to enter gender and development debates. Generally men apologise for not dealing with women rather than attempting to do so. Leys speaks for many men (for example Christie 1984; Eberhard & van Horen 1995; Fine & Rustomjee 1997) when he argues as follows:

In staying within this range of issues I am very conscious of continuing to neglect a number of other closely connected and important questions that recent research and practice have put on the development agenda, and especially two: the conditions and needs of women and the indispensable contribution of women to the solution of development problems, and the philosophical, economic and social dilemmas that the limits of the physical environment pose for development, however it is conceived. However.... (Leys 1996: vii)

Although the issues concerning women are far from resolved, thirty years of advocating the inclusion of women has ensured that by 1990 there was a better understanding of the complexities involved. The changing concept of gender (Butler 1990) and the fluidity of terminology (Stolcke 1993) make it necessary to establish points of departure for the study of women and energy. Since women/gender and development is a field of study with its own considerable literature, the description is of necessity very brief, serving merely to indicate the context from which the women and energy initiatives grew.

By 1970 the second wave of feminism<sup>16</sup> had raised the visibility of women in societies all over the world, albeit with very different interpretations and consequences over time. Women (and some men), throughout the world engaged in active debates about 'the women question'. After decades of lively feminist argument, feminist scholars<sup>17</sup> remain divided in their assessment of whether women are, for example, oppressed or subordinate, and the reasons and resolutions thereof. The feminisms which emerged in the United States of America in the 1960s, developed alongside the black civil rights movements and the anti-war campaign, and could be understood as part of a nascent human rights culture (which manifest in development planning as the Basic Human Needs approach). Liberal feminism, the predominant school of feminist activity in the developed world, informed many of the initial assumptions which determined Women in Development projects' approaches to women. One of the basic tenets of liberal feminism is the concept of *equality*: women and men should be granted equal opportunities in school, at work, before the law and particularly in terms of economic independence. The belief in equality underpins most of the women/gender and development approaches, but with rather different interpretations and effects.

With hindsight different theoretical periods in the women/gender in/and development debates can be determined, and within these different feminist positions discerned. Moser (1993), building on Molyneux (1985), suggested a chronological framework for analysing WID approaches. She identifies five stages, which she evaluates in terms of the ability of each to meet women's practical and strategic gender needs. Women's practical needs are those generally associated with gender roles and the division of labour; women's traditional responsibilities that need immediate attention such as fuel and water collection, child care and health services. Strategic needs are those aspects which much be changed in order to change women's subordinate status in society, for example legal and land rights, the gendered division of labour and cultural practices which subordinate women, and gender-based violence (Moser 1993: 40-41). The

---

<sup>16</sup> The struggle of the suffragettes for the vote at the turn of the century is known as the first wave of feminism.

<sup>17</sup> Feminist scholars is used loosely here following the definition of Howell & Melhuus – 'those scholars who seriously incorporate questions of gender in their studies' in Del Valle (1993: 53).

approaches themselves shift from viewing women as recipients of welfare in the initial stages of the Women in Development (WID) approach, through a focus on structural and socio-economic factors in the Women and Development (WAD) approach, to a call to take account of gendered social relations which is known as the Gender and Development (GAD) approach.

In addition to the above descriptive categories, post 1990 the Women, Environment and Development (WED) and the Gender, Environment and Development (GED) approaches have been documented and critiqued (Kabeer 1994; Jahan 1995; Visvanathan et al 1997; Jackson & Pearson 1998; Sittirak 1998). Moser's analysis has been criticised (see further on) but is used here because it is the approach adopted in women/gender and energy debates. The primary objective of most energy projects has been to address women's practical needs (Skutsch 1995). The literature too has been concerned with analysing how the shifts in WID/WAD/GAD thinking has affected the planning and implementation of energy projects (Bakker & Skutsch 1995; Clancy 1999). Thus the WID/WAD/GAD positions are elucidated here in so far as they affected women and energy projects up until the mid-1990s. There is some overlap between the WID, WAD and GAD positions and it would be unusual to find a project which did not incorporate elements of more than one of these. Nonetheless it is useful to be able to differentiate between the broad principles and the chronology that can be associated with each.

The first WID phase was the *welfare* phase during which health, population and housing programmes were introduced to assist women to fulfil their tasks as mothers and guardians of their family's interests. But as Boserup and further studies showed, by the mid-1970s poverty and population had increased and it had become clear that these assistance programmes and the trickle down hypothesis in development had failed (Visvanathan 1997: 2). It could be concluded that the welfare approach neither helped women meet the practical needs of their every day lives nor impacted on their strategic needs, but a consequence was that in reflecting on the failure of this development approach, women emerged as a particular category in development thinking.

In the 1970s the United Nations began to address women's concerns with the intention to 'integrate women into development' (Pietilä & Vickers 1990: viii); recognising that



that this had not been the case,<sup>18</sup> and at the same time exhibiting the hallmark of the liberal position that women should be accommodated within mainstream thinking rather than inventing a new paradigm as suggested by radical feminists and economists (Firestone 1979; Tinker 1982; Nerfin 1977 respectively). In 1975 a conference to launch the United Nations Decade for the Advancement of Women (1976-1985) was held in Mexico City (Visvanathan 1997: 2). This heralded the second or *equity* phase, which acknowledged the need to recognise women as equally valid recipients of development aid, and called for gender equality in order that women's resources could be put to full use in the development project. As a result ways were sought for women's integration into male power structures, equality of opportunity for education was called for, and women were put on the economic growth agenda. However, the challenge to the status quo posed by the equality statement met with substantial resistance from men (Visvanathan et al 1997: 20), and rather than force confrontations between men and women, development planners in large agencies turned their emphasis elsewhere (Visvanathan et al 1997: 20). This was in itself a comment on gender relations in funding agencies and the inability of men and women to negotiate these, although Parpart (1995: 259) believes that the shifts in WID policy took place in order to accommodate the WAD critique rather than the disapproval of men.

Whatever the balance of pressures, the result was that the focus on women's equality was steered away from the political and towards the *basic human needs* phase which saw women being targeted, but without the benefit of any deeper social analysis of power relations. The approach concentrated on women's productive efforts in order to meet their every day needs and neglected their strategic needs as defined by Moser above (Cecelski 1984; Visvanathan 1997: 20). At this time the United Nations began to put considerable effort into describing different means to assess poverty and poverty alleviation, developing a set of indicators which would measure more qualitatively, and less mechanistically, than income and GDP (Goldemberg et al 1987: 23), at the same time having equally appropriate application for poor women and men. Although the basic needs approach failed to achieve the required returns on development investments, women's visibility was augmented through increased research and the collection of

---

<sup>18</sup> There is debate as to whether women have always been integrated into development or not (Visvanathan 1997: 18).



gender disaggregated data. Moreover, obstacles to women's progress in funding agencies were identified, taking the first step towards addressing the strategic needs of elite, northern women in their places of development employment. Although as Tinker (1990)<sup>19</sup> pointed out, it took a while for the large development agencies to follow their rhetoric with financial commitment, and WID officers, whose business it was to ensure the integration of women in organisations, were only appointed well into the 1980s.

The second United Nations Conference on Women was held in Copenhagen in 1980, but it was the third, the World Conference to Review and Appraise the Achievements of the UN Decade for Women, which took place in Nairobi in 1985, that was hailed as 'a turning point in the history of women's issues in the UN system' (Pietilä & Vickers 1990: ix). The successes of the UN conference included speeding up the ratification of Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and the drafting of the Forward-looking Strategies for the Advancement of Women to the year 2000 (Pietilä & Vickers 1990: ix). However all was not sweetness and light among the sisters in Nairobi as suggested by Pietilä and Vickers (1990: 3). At a parallel conference, the Non-Governmental World Conference on Women, and at the formal sessions, heated confrontations occurred between women from developed and developing countries. There were calls from the south (and some from the north) for alternative development approaches which acknowledged and valued third world women's daily lived experiences. Women from the south believed their voices had not been heard, that their appeals had gone unheeded and they were angry at being overlooked (WIP 1985: 29). One of the consequences of this confrontation was reflected in the reluctance of northern women to become involved in issues of gender and culture, and will be raised in Chapter 3 with regard to its influence on women's relations in South Africa. An interesting development at Nairobi was the presentation of the work of a group based in Bangalore and called Development Alternatives with Women for a New Era (DAWN). They described themselves as 'committed women from a number of different countries [who] came together to share their experiences with development strategies, policies, theories and research'. DAWN has become a major channel for third

---

<sup>19</sup> Irene Tinker, based at the University of California, Berkeley Campus, is cited earlier and wrote some of the first feminist women and energy (fuelwood) studies.

world women's perspectives (Sen & Grown 1988: 9-12) and alliances between first and third world women. It formulated a vision of a future society thus:

We want a world where inequality based on class, gender, and race is absent from every country and from relationships among countries. We want a world where basic needs become basic rights and where poverty and all forms of violence are eliminated. Each person will have the opportunity to develop her or his full potential and creativity, and women's values of nurturance and solidarity will characterise human relationships. In such a world women's reproductive role will be redefined: childcare will be shared by men, women and society as a whole... only by sharpening the links between equality, development and peace, can we show that the 'basic rights' of the poor and the transformations of the institutions that subordinate women are inextricably linked. They can be achieved together through the empowerment of women. (DAWN 1986: 73-5)

The vision of a society where childcare is shared and institutions have been transformed is one in which gender relations have been transformed, rather than simply addressing women's every day practical needs. It was only 1986, and the full impact of policies of the 1980s which reversed rather than enhanced the gains made, had yet to be measured. For the 1980s heralded the *efficiency* phase. Despite the progress made in Nairobi for women in terms of international conventions, the 1980s saw further erosion of services and spending for the poor as economies declined and debt increased in Africa and Latin America in particular (UN 1989: 5). The 1980s, the 'lost decade' (World Bank 2001: 3), is associated with IMF structural adjustment programmes and worsening conditions for many women, resulting in what has become known as the 'feminisation of poverty' (UN 1989:5; Tinker 1997:38; World Bank 2001:xix;). The efficiency phase meant new pressures on women with new emphases on increasing women's effectiveness, productivity, and participation in development planning so that they would play a greater role in economic development. Parpart (1995: 259) notes that women were encouraged to fulfil their tasks as workers (read waged or income generating workers) and even allowed to run their own projects. However this was not enough to make a difference to poverty levels. Although some women, for example those trading in West Africa, gained ground during this period (World Bank 2001: xix), for most, this instrumentalist approach to women and development fulfilled neither their strategic nor

their practical needs. Women remained on the margins, visible to only a minority. The UNDP reported that: 'One major shortcoming of development strategies has been the failure to take into account the role and potential of women. The facts suggest that this shortcoming must be remedied if the development strategies of the 1990s are to succeed' (UNDP 1989: 5).

Following the losses incurred in the efficiency phase, Moser describes the fifth or *empowerment* phase as emerging from third world women's determination to own and construct the development process for themselves (Moser 1993: 74). In this way women would be active participants in changing the power relations between women (from the north and south) and between women and men. Moser implies they would do this through increasing their own inner strength and self-reliance (Moser 1993: 74). Tinker (1990, 1997: 37), writing three years earlier, understood empowerment, a relatively new term at the time, quite differently. She related it to the dynamic between organisation and influence, particularly feminist women's organisations, and described how when women from feminist movements began to work in development agencies, they drew on the consciousness raising techniques of feminism 'for training women to recognise and change cultural stereotypes that limited women's leadership roles' (Tinker 1990, 1997: 37). She also relates empowerment to the potential of outside agencies to facilitate change in gender relations in recipient countries or projects and their reluctance to do so. This, she argues, marked an important 'parting of ways' between WID agencies concerned to depoliticise development and feminists engaged in gender politics:

Outright efforts at changing attitudes could not be accomplished within the confines of most international agencies, since they maintained that foreigners had no business tampering with culture. Thus arose the distinction between global feminism and women in development. (Tinker 1997: 37)

This is an important distinction between feminism and development activism. Moser too recognised that the WID position which focuses on women in isolation and tries to find ways of integrating them into development processes, may be an easier route for aid agencies to take. However this route not tackle the fundamental problem of gender relations, and unless gender planning becomes mainstream practice, gender equity will not occur. Moser argues that the real problem is women's 'subordinate status to men' and that:

It is important to recognize that gender planning differs fundamentally from planning for Women in Development. Because it is a less 'threatening' approach, planning for Women in Development is far more popular. However, by its very definition it is an add-on, rather than an integrative, approach to the issue. Gender planning, with its fundamental goal of emancipation, is by definition a more 'confrontational' approach. Based on the premise that the major issue is one of subordination and inequality, its purpose is that women through empowerment achieve equality and equity with men in society. (Moser 1993: 3)

Coming from the World Bank where Moser was employed, Moser's analysis was a bold one, and, albeit not new or sufficient, her categorisation of practical and strategic gender roles is useful. The position itself remains a classically liberal feminist one, that women are 'subordinated' rather than 'oppressed' and that women should be sanctioned into, and accommodated within, the masculine development world. Radical feminists pointed out very early on that they rejected this male world, and the radical development critiques reject the masculine and western development idiom. They call for a re-defined world along the lines of the DAWN vision above, where male and female values are held in esteem and where men's world is re-defined too. Overall criticisms of WID positions have centred on the way WID programmes stress western values and target individuals, and maintain economic development as a primary focus (Mohanty 1991; Scott 1995). Others add that in practice WID approaches generally accept existing structures, are non-confrontational, and treat women as an undifferentiated category. Third world women are especially critical of the latter which implies neglecting the influence of class, race, culture, age and hierarchy (Visvanathan et al 1997: 18), and these criticisms have been the basis of much of third world women's rejection of western feminism. The primary WID contributions lay in highlighting women's questions, foregrounding women as a target group for particular development assistance, and beginning to provide data on women and the mainstreaming of gender issues in development agencies (Overholt et al 1985; Jahan 1995). Global feminism, although somewhat removed, continued to influence gender and development through some strands of postmodernism.

The WID approaches predominate in the women and energy literature, for this reason most time has been spent on its description and second part of the chapter is devoted to an examination of these influences in the energy sector. WAD and GAD influences are

less common but may be discerned in particular organisations and literature from 1995 onwards.

Women and development or WAD emerged from a critique of the WID approach. Both WAD and some strands of GAD are influenced by Marxist and socialist feminism; these influences need to be noted as well. The WAD phase saw intense criticism of the massive inequalities between the north and the south and an emphasis on the international structural and national institutional changes that would be necessary in order for development to be of benefit to poor men and women. WAD draws on dependency theory and claims that women have always been part of development, and therefore do not need to be 'integrated' into it. However, they argue, what has been missing is a focus on and understanding of the relationship between women and the development process. A critique of patriarchy (Charlton 1997: 12), along with suggestions for alternative development approaches, motivated activists to call for small-scale women-only development projects which would avoid both internal and external male domination. This was the essence of the WAD approach (Rathgeber 1990), although Visvanathan (1997: 19) argues that WAD remained too preoccupied with women's productive role and neglectful of an analysis of patriarchal power and influence. In the energy sector small-scale women-only development projects had definite appeal. The WAD phase heralded an approach which encouraged small scale energy projects which women could manage on their own, such as the construction of fuel efficient stoves, and the establishment of small woodlots. However, over time the exclusion of men and considerations of male power and influence from energy projects such as woodlots, was what led to their failure (Tinker 1982).

Gender planning finds its home in the Gender and Development (GAD) approach which emerged in the late 1980s as an alternative to WID and WAD. GAD was indicative of further elaboration of thinking about women and men and development, and was heavily theorised in the 1990s, somewhat beyond the scope of this chapter. However *gender* rather than women was being used as a concept in development internationally and in South Africa by the late 1980s, so that a brief review of the international interpretation of gender and development at the time is in order. The GAD perspective focuses on gender rather than women, and particularly the social construction of gender roles and gender relations. Naila Kabeer's explanation of gender is often quoted:



Gender is seen as the process by which individuals who are born into biological categories of male or female become social categories of men and women through the acquisition of locally defined attributes of masculinity and femininity. (Quoted in Parpart 1996: 260)

Socialist feminist writer Kate Young (1997: 51-54) posits that GAD focuses on social relations between men and women in a variety of settings with special attention to those in the workplace and the domestic sphere. That is, GAD rejects the dichotomy between the public and private spheres (Visvanathan 1997: 18) and emphasises gender relations in both the labour force and the reproductive sphere. GAD also considers the question of power in gender relations, and suggests strategies for empowering women to challenge the structures and systems which perpetuate gender hierarchies (Kabeer 1991). This use of *empower* implies both skills for challenging the power of others as well as attaining the inner strength to do and finds resonance in the earlier work of Sen and Grown (1988). Parpart suggests that another difference between WID and GAD is that WID presents third world women as victims. Mohanty (1988) is another such critic who pointed out that much of the WID literature represents women 'as benighted, overburdened beasts, helplessly entangled in the tentacles of regressive third world patriarchy' (quoted in Parpart: 1995: 254). In contrast the GAD approach views women as active agents rather than passive recipients (Parpart 1995: 259). Despite its criticism of other approaches, GAD protagonists view them as necessary contributions to equity (Young 1997: 52) and look for support in the emancipation of women at all levels; among men, and at state, local and community levels.

There is one further contribution to the women and development debate which is necessary to mention before examining how each of these affect energy supply and women, and that is of postmodernism. Parpart (1995: 253-4) makes two points about the interaction between language and development activities pertinent to this thesis. Firstly that the conventions of representation which run deep in colonial discourse and maintain that the third world and the people in it were worth less than the first, flowed easily into development discourse and were absorbed as normative. Secondly that women, if they were acknowledged at all, were perceived as an obstacle to modernisation and progress (Parpart 1995: 254). This discourse is perpetuated by many men and women development writers, who veer from treating women as bottom of the social scale and

the keepers of obsolete culture and tradition<sup>20</sup> (Annecke & Muller forthcoming) to reifying women's flexibility and coping mechanisms in the face of severe obstacles (Rodda 1991: 5).

Another useful insight from postmodernism is the construction and deconstruction of the 'other'. Feminists from the north started out seeking likeness and unity captured in the slogan *the personal is political*. Pressure from black feminists and southern women who highlighted differences of race, class and daily lived experience, found resonance in the postmodern scholars' emphasis on the category of Other as central to the analysis of knowledge and power. Parpart (1995) sees the way forward in the development debate through a reconstructed post-modern feminism which recognises the connection between knowledge, language, and power and seeks to understand local knowledge(s), both as sites of resistance and power. This echoes the perspective of Sardar (1999) and Said (1979), and links with feminists' demand to possess the power of naming (Daly 1978) for themselves and feeds into current debates on how best to acknowledge and use indigenous knowledge in energy projects involving forests and other biomass resources (James 1996). It is difficult to imagine how the concept and practice of participation may become meaningful without such shared discourses.

Parpart suggests that the postmodern perspective may contribute further in a variety of ways. These are not necessarily the prerogative of postmodernism but are useful to list here anyway. Postmodernism contributes to development analysis and practice by questioning the equation between modernity and development, it rejects the top-down approach, and advocates that women of the south should become subjects rather than objects of research. In addition postmodernism recognises that gender ideology shapes and limits women's access to knowledge and power in particular societies, and acknowledges the connection between knowledge, language and power (Parpart 1995: 263). The appeal of postmodern feminism in development has been its focus on difference (Parpart & Marchand 1995) and its call on women to define themselves (as research subjects and agents) rather than be defined as research objects (by women or men). This of course is not a new call. It was made by Virginia Woolf as early as 1928, and by Simone de Beauvoir in 1952. A substantial part of the feminist project has been

---

<sup>20</sup> In Africa, tribal authorities who are almost invariably male, have significant influence in maintaining traditional practices.

devoted to rendering women, and women's part in history, visible (Miles 1988; Harding 1995).

A significant contribution of the postmodern perspective is its establishment of the possibility of agency and the establishment of the possibility of changing roles (Kabeer 1994). Parpart (1995: 260), echoing Tinker and Moser above, points out that academics have taken up this possibility more eagerly than large donor agencies who have been unwilling to sponsor attacks on patriarchy or interfere in what are called the 'cultural values of sovereign societies' (UNDP 1989). This unwillingness to tackle culture and root causes has significant ramifications for those working in development including energy projects. The options appear to be limited: collude with the hope of poverty amelioration and that eventually there will be sufficient trickle down to make a difference, or be cast as interfering in others' cultures and traditions. The contradictory nature of this mainstream women and development thinking is captured in the paragraph of a UNDP document which begins 'all development will be delayed without economic growth' and ends with an acknowledgment 'there is no automatic link between economic growth and the advancement of women' (UNDP 1989: 8).

While GAD talks in terms of challenging power relations between men and women in society, Visvanathan (1997: 19) points out that not much has been accomplished by development projects in this regard. In a recent article Wieringa<sup>21</sup> (1998: 350) criticises the positions of Young, Kabeer and Moser, and argues for re-investing gender with the critical edge and 'broad range of issues it actually can and should cover'. She goes on to argue that gender planning can empower women only if 'the full range of issues women are confronted with, from physical to symbolic, political and economic are tackled' and is failing its duty unless it does so. Wieringa articulates a renewed interest in the feminist-activism or (depoliticised) development debate that remains unresolved and is returned to in the discussions of women/gender and energy projects in Chapter 7. To what extent can or should the delivery of energy services involve participation and empowerment for feminist ends?

---

<sup>21</sup> I thank Margaret Skutsch and Joy Clancy for bringing this text to my attention.



## **Attention to household energy reveals the role of women and 'women's energy needs' are defined**

The energy sector was slower than most in beginning to examine the synergism between women and the sector's development programmes (ESMAP 1990: 3). Calls for women's 'involvement', and 'participation' began to appear in the energy for development literature in the late 1970s and 1980s but the notion of 'empowerment' makes scant appearance in women and energy literature until the 1990s. This lagging behind was partly as a result of the understanding of energy as technology and a driver of economic development rather than a human development issue or a basic need. The sector was not particularly socially concerned, and it was dominated by technicians and economists (Goldemberg et al 1987). Increasing access to modern energy sources was the development priority, and this primarily through access to electricity and petroleum based products, which required large capital-intensive infrastructure. The World Bank had sunk \$10 billion into rural electrification by 1971, and expected the amount to increase in the next ten (Cecelski 1982: 1). As mentioned above, the failure of this supply-side strategy, (OED précis 1996) in combination with the oil crises of the 1970s (Seitz 1988: 79), meant that there was little benefit from these large scale investments felt by the majority of the people in developing countries. This helped shift attention to the demand-side of the equation (Cecelski et al 1979: 1, Goldemberg et al 1987). As may be recalled, the user, or demand-side, included about half the world's population who had no electricity or fossil fuels, but relied instead on biomass fuels: wood, charcoal, crop residues and cow dung (Seitz 1988: 79). Most of these fuels were consumed by poor people at the level of the household, in fact household energy consumption accounted for between 50% and 70% of total energy consumption in developing countries (Cecelski et al 1979: 1; Tinker 1982: 29) and was therefore worthy of some attention by country governments and international agencies.

In 1979 a group of researchers was commissioned by the World Bank to draw together the work that had been done with specific emphasis on household energy consumption. It was intended as a preliminary study for a research project on energy needs and possibilities for the poor in developing countries, and was to evaluate the possibilities for supplying these through new and renewable technologies. The result has become a landmark text: *Household Energy and the Poor in the Third World*, (Cecelski, Dunkerley & Ramsay 1979). The study served a valuable purpose in bringing together a

collection of information in a field 'which is as yet poorly structured and whose literature is widely scattered' (Cecelski et al 1979: vi). The ten pages of bibliography include country studies, demand surveys, the supply of biomass and related products and new and renewable alternatives. There are few papers on household use, mere mention of energy for productive purposes, and no mention of categories of consumers other than a homogenous one of 'the poor'. However Cecelski et al's study provides useful technical baseline data from Latin America, Africa and Asia on what household tasks the poor use energy (cooking, water heating, ironing); what types of energy are used (predominantly biomass of one kind or another); how much energy is used; the links between income and proportion spent on energy; appliance ownership; efficiency of appliances and energy use; and the role of electricity and the cost and adequacy of consumption levels (Cecelski et al 1979: 7-34). This is a technical report on household energy, it provides such information as average quantities of energy consumed in terms of GJ per annum. These were calculated at between 10 and 20GJ per capita annually. The higher figures were more likely to relate to consumption in Latin America, the lower in Asia and Africa (Cecelski et al 1979: 12). There is a technical comparison of efficiencies in terms of heat intensities of woodfuel, biogas, dung, solar, small-scale hydroelectric, wind, waste, kerosene, and central electricity supplies. Finances are considered too: subsidies for rural electrification, the impracticalities of lower of life-cycle costs of solar systems for the poor, and the difficulty of reaching the poorest with subsidies and projects rather than benefiting those who are already slightly better off. In addition Cecelski et al raise questions about decentralised energy services in the form of community energy systems, and the training of operators. The problems raised in this study remain unresolved twenty years later.<sup>22</sup>

Cecelski et al also document the problems caused by the monetarisation of goods which were previously 'free', such as woodfuel and discuss the worth and value of labour and health as opposed to the value of a commodity. Other perennial problems, credit and finance options for the poor, are described (Cecelski et al 1979: 72-84), and alternatives considered (Cecelski et al 1979: 34-61). There is recognition that the technical data does

---

<sup>22</sup> For example recent evidence in South Africa shows ongoing difficulties in reaching 'the poorest of the poor' (Kloot 1999), while the idea of 'energy agents' surfaced in South Africa in the late 1990s (James 1998).

not supply the full picture nor can technology alone provide the solutions. What the authors call 'cultural and equity components' in the implementation of energy programmes (Cecelski et al 1979: 6) are recognised as important in assessing the value and impacts of projects (Cecelski et al 1979: 62), although data on qualitative aspects of energy use patterns was minimal. A warning about technology adoption is sounded which, as will be seen throughout the thesis, still holds: 'New energy technologies which do not directly match the energy demands and incomes of the intended users will be adopted only with great difficulty, if at all, no matter how lavish the energy assistance programme' (Cecelski et al 1979: 62).

After the implementation of many costly programmes, failures rather than successes were the order of the day (Cecelski et al 1979: 107). The details of the book have been elaborated here because many of the questions raised, and particularly the meaning of 'equitable' access to energy sources given that 'existing income distributions and patterns strongly condition the use of energy resources' (Cecelski et al 1979: 72), are currently still being debated. Other conclusions that have been confirmed by studies over the years include that:

- increasing income alone may not be the solution to enabling the poor to provide for their energy needs (Cecelski et al 1979: 2);
- the provision of basic needs, water, food, housing, education, would lead to the increase of energy use 'embedded' in such services (Cecelski et al 1979: 3);
- there appears to be little difference in consumption levels between the urban and rural poor (Cecelski et al 1979: 3);
- the trend with rising incomes is to switch to other fuels and technologies (4);
- solar cookers 'suffer from a lack of appropriateness to end uses' (Cecelski et al 1979: 4);

In the only qualitative contribution to the book, Emmanuel Mbi wrote an Appendix, 'Observation on some aspects of energy use in Cameroon' which begins as follows: 'The average rural dweller in Cameroon, as would be expected, uses very little marketed energy or fuels compared with the urban dweller. He relies more upon non-commercial forms of basic energy.' Mbi then proceeds to describe the three general categories of energy (electricity, other commercial energy and non-commercial energy) and the tasks for which they are used by middle class and poor people in rural areas.

The emphasis is on domestic tasks: lighting, cooking and ironing. Unless men of Cameroon are unusual in this regard, these are chores usually performed by women, but women are not mentioned, and the paper continues as it began, with the masculine pronoun as the agent (Cecelski et al 1979: 135-146).

In other words, the early literature treated the poor and household energy users as masculine, and was blind as to the difference between men and women, boy-children and girl-children, with regard to access and control over household energy sources, and the difference this might make to targeting development efforts. Much of it remains so (Chapters 2 and 3). The terms 'poor' and 'household' were used unproblematically (Cecelski et al 1979) and the primary disaggregation of users of woodfuel was between poor rural and urban households (Dunkerley et al 1978), the assumption being that urban poor would have access to other, commercial forms of energy (Cecelski et al 1979: 14). Notwithstanding the rudimentary data available (Cecelski et al 1979: 34) and the description of energy poverty in terms of kilojoules and men, important points are raised in the Cecelski study that have changed little over the following twenty years. What has changed has been that for many researchers, women have become visible as key actors in household energy consumption, and Cecelski's work has been key in this regard. In addition attention to biomass use was highlighted as crucial to addressing household energy requirements.

Focusing on wood and biomass use required adjusting the energy for development lens to look at forests as fuel stockpiles for household energy use, and a concomitant concern for their rapid depletion. Much as the oil crisis threatened economies in the developed world, so the decreasing security of wood supply constituted the energy crisis of the poor and underdeveloped nations. At least this was the argument of environmentalist E Eckholm, who coined the phrase 'the other energy crisis: fuelwood' (Eckholm 1975). Interestingly the crisis was seen as a crisis for men (Eckholm 1978; Gandar 1984). Certainly wood supply and demand studies of the 1970s showed increasing demand and dwindling forests in proportions sufficient to cause alarm and be identified as a problem if not a crisis (French 1978).<sup>23</sup> Cecelski et al (1979: 132-133) provide a list of country

---

<sup>23</sup> A lone voice crying against the crisis of wood paradigm has been Gerald Foley who has argued:



studies of timber supply, consumption patterns and future requirements of wood in Africa and Asia, and specific assessments such as the market for firewood, poles and sawnwood in major towns in Nigeria, which were done in the 1970s and which were generally pessimistic about the adequacy of supply to meet demand.

The solution appeared obvious: to grow more trees, and indeed this has been tried and tried again, but has been as unsuccessful as the attempts at electrification. One of the more notable failures was in the Sahel, where, for an expenditure of US\$160 million, only 25,000 hectares of plantation were established, and the indications in the early 1980s were that they were growing poorly (Leach & Gowen 1987: 86). Leach and Gowen ask pertinent questions about why people do not plant trees when firewood is scarce and its collection takes many hours a week, as well as who is able to respond to fuelwood scarcity. They do not answer these questions except to point out that over the past decade the experience of energy policies and projects that attempted to address the needs of families in developing countries has not been an altogether beneficial one. Project failure can often be traced to a lack of understanding of local conditions, the way people see their own priorities and options for actions, or as a consequence of targeting the wrong people and misunderstanding the user/client (French 1978a; Leach & Gowen 1987). Evolving development theories suggested that the inclusion of women is vital for the success of these projects.

Early research into wood use was done and written by men (and a few women) interested primarily in the quantitative assessment of wood consumption, and refers to men rather than women as agents or actors in wood use (Eckholm 1978). From the early

---

The present level of consumption of wood and other fuels in an area is simply the demand under existing conditions.... There is a lack of basic data on consumption levels; and even less is known about how they change with time.... Many, if not most, rural families would shift to the use of twigs, agricultural residues and dung rather than grow trees for firewood; their demand for firewood, if they have to grow it themselves, is effectively zero. The effect of the use of agricultural residues and dung depends very much on the precise circumstances in which it happens (Foley 1988: 4-9).

However Foley had no practical solutions for the energy community because he understood that the solution lay in better use of land. Since tackling land use problems lies outside the domain of energy specialists, land abuse is likely to continue (Foley 1988: 9).

1980s onwards an increasing number of research and development practitioners, primarily women, began to publish their concerns about women's roles in forestry and woodfuel projects, and to investigate social relations and cultural practices that affected wood use and replacement (Hoskins 1979). Hoskins (1983) was cynical about the way in which social forestry was invented by male planners and the way in which 'early social forestry programmes ignored women's expertise in the many-sided utilisation of indigenous species and planted commercial varieties instead' (Hoskins 1982). Woodlots, it was suggested, failed because they failed to recognise and include women as the users of woodfuel and potential beneficiaries of the projects, and because they failed to consider issues such as land ownership, responsibility for caring for seedlings, and ownership of the products (fruit, timber) and profits. Once the trees had matured, products and profits passed from women to men (Hoskins 1982; Tinker 1982; Agarwal 1983; Bahugna 1984; Agarwal 1986). That is, the inequitable gender relations that impacted on women's ability to address poverty, were overlooked by project planners and implementers. In addition it took many years to realise that women prefer particular species of dead wood and dry sticks for burning, and do not benefit in the short to medium term from tree planting and green wood.

The purpose of the Cecelski et al's (1979) household study was to explore possibilities for changing conditions of energy poverty through the use of renewables, but in order to do so, more detailed and accurate information about how biomass resources were used once they reached households was needed. Soon the necessary detail was forthcoming in the form of time use studies such as those of Farouk (1980) and Reddy (1980) which showed, among other things, that not only did women work substantially longer hours than men each day, but that throughout developing countries wood and water collection occupied women for between two and six hours a day, with women in Africa spending longer times in this activity than others (Tinker 1982: 13). The definition of household energy was initially limited to energy used for those chores designated to women according to the gender division of labour. This included women collecting, chopping, bundling and carrying wood, and using, or overseeing the daily use of this or other fuels, such as crop waste or dung, for heating, cooking and lighting. Later it was noticed that the majority of women use energy for a variety of other productive activities conducted from the home (Gordon 1984), and these began to be included in some studies of household and/or what was called domestic energy use. This focus on the activities of individuals in households, established women as the primary managers of

household energy, so that Irene Tinker (1982: 1) could announce with confidence that 'Energy is a women's issue' (at least for women in the south).

It is a women's issue because it takes up so much of women's time (Tinker 1982: 1), and due to scarcities, collection times increased up to fourfold in a generation (Agarwal 1986) and have continued to worsen (Annecke 1998). It is also a women's issue because women use energy to fulfil the domestic tasks for which they are primarily responsible. Tinker is a self-defined feminist of the liberal tradition and her prognosis for energy use fell squarely within the WID framework of tackling issues of equity and equality. When she said energy was a women's issue she did not accept that this should remain so but nor did she show any evidence of knowing how to change the every day responsibilities and practical needs of third world women, or really challenge women's roles. However she tried a number of different angles. Unlike most of those who followed her, Tinker was concerned about women from developed countries who are consumers with the ability to make choices about energy as well as with poor women from developing countries (Tinker 1982: 6). She proposed that northern women be made aware of and choose alternative sources of energy (renewables) rather than fossil or nuclear fuels. She also referred to the role of men and the relations between men and women in the north:

The uneven distribution of household drudgery is clearly a world wide issue. How can some form of equity be established unless men, as well as women, contribute their energy to the household?...The easy assumption that under pressure men would share work in the women's sphere's has happened in reality only to a limited degree, primarily among affluent and well-educated couples without children. (Tinker 1982: 24)

For the most part Tinker's comment on gender relations and the difficulties of changing these went unremarked. Third world women's domestic roles as wives and mothers and managers of domestic energy were, almost without question, accepted as inevitable and natural. The practical energy needs generated by these roles, the time it took to fulfil them and the physical strain this placed on women, was what was taken up. Men are all but invisible in accounts of wood collection. There are occasional references to men performing tasks associated with wood collection: sharing the task fairly equally in Peru (Alcantara quoted in Dankelman & Davidson 1988: 69), bringing home large logs from the land in Rwanda, producing charcoal in Ghana (Ardafio and Bart 1980 quoted in

Dankelman & Davidson 1988: 68), but men are rarely responsible for wood collection unless there is a commercial advantage:

As domestic fuel becomes more commercialized and collection is orientated towards large-scale organised sale and charcoal making, men's participation increases. But so long as technology and marketing are absent, the task of fuel gathering is the work of women. (Dankelman & Davidson 1988: 69)

The early women and energy literature falls very much within the genre described by Mohanty (1988) as the objectification of third world women as victims and beasts of burden. The methodology of the early studies is often not described in any detail so it is not clear how the researchers and the researched communicated, or what participative, non-exploitative and empowering research, important concepts to feminist researchers, might mean under these circumstances. Subsequent chapters explore this further. The problems associated with household energy were initially defined in terms of time and human energy expenditure which entails limited returns for very long hours of work and limits the ability to generate an income (Tinker 1982: 2). 'The problem is not that the rural poor are underemployed, but that they are underproductive' wrote Tinker (1982: 4-5). Cecelski concurred that long hours of wood collection left little time for income generating activities (in Dankelman & Davidson 1988: 70). Such emphasis on productivity and income generation drew fire from Mohanty, who is critical of Tinker and her colleagues' equating development with economic development (Mohanty 1991: 63).

This materialist approach of researchers from developed countries was not, however, unexpected. For the most part energy studies were done and paid for by agencies such as the World Bank and USAID in the USA, the International Labour Office (ILO) in Geneva, and various quasi-government and non-government agencies in Europe, many of whom were very newly attempting to take women into account in energy projects (ESMAP 1990). Jahan (1995) offers a carefully researched comparison of key donor and recipient priorities, and convincing arguments why, despite some significant achievements and heightened awareness, the goals of the women's movement – transforming social and gender relations and creating a more equitable world – remain elusive in development. Most of the early attempts fell within the welfare rubric of the WID framework and consisted of charitable attempts to assist women. The progressive



researchers of the late 1970s were at pains to point out that women were not passive recipients and victims of their own actions. The wood fuel crisis was not caused by women cutting down forests for their own needs but by the clearing of forests for building materials, agriculture and grazing, thereby increasing the scarcity of firewood (Tinker 1982: 13). The development workers used these points in an attempt to move organisations from a welfare approach to recognising women as actors and agents deserving equal attention (albeit economic) in energy projects. As was mentioned above, the equity phase of WID was short-lived, moving very quickly into the Basic Human Needs phase, where Cecelski came into her own.

In 1984 Cecelski wrote about women's energy needs for the International Labour Office (ILO) in Geneva. The study shows the shift in development thinking that had taken place from measurement of household energy consumption (quantitative technical data) to the UNDP Basic Human Needs framework of assessment. Attention turned from the supply of large scale infrastructure, to strategies which made it possible to use scarce resources to satisfy a minimum defined set of basic needs for all. It took years of debate before it was agreed that energy plays an essential role in meeting these needs in domestic life, agriculture and employment opportunities and to define a measurable set of indicators of the fulfilment of these needs (Goldemberg et al 1987: 23). Energy is still not recognised as a basic need (Clancy 1999).

Cecelski's study was one of the first to focus on women's use of household energy. It combines perspectives from fuel consumption, time-use and nutrition studies, and explores the relationships between the rural energy crisis, women's work and family welfare. Most significantly, the author calls for the participation of rural households, especially of rural women, as the principle users and suppliers of household energy, in the planning, development and implementation of new energy technologies and strategies (Cecelski 1984).

This study was followed up by a paper devoted to a more critical examination of the efficacy of many energy projects and suggestions for alternatives (Cecelski 1986). Together the two studies laid a foundation for approaching energy as a catalyst for the accomplishment of women's roles, which, together with the selection and use of fuel, became recognised by research and development agencies as 'women's energy needs'. These early studies done for the ILO, set the reference points of international women/gender and energy studies in terms of sympathetic economists' views. ON the

other hand the Basic Needs paradigm was rejected by feminists in development because it focuses only on meeting the every day needs of women and does not pay attention to gender and power relations or the systemic patterns of subordination.

Women and energy projects studies continued to shift their focus, absorbing from environmentalists that women were not perpetrators but victims of environmental degradation and deforestation (Agarwal 1986). Some were successful in involving women in sustainable land management forestry projects, recognising that women have important skills and knowledge that can be applied to support environmental conservation (Sontheimer 1991). Several trends co-existed in planning offices in the 1980s with environmental perspectives, the consequences of the shortages of wood, and the failure of income generating projects feeding into a sense of urgency for economic reform and structural adjustments programmes. This drove the *efficiency* approach and a renewed insistence that economic growth would address falling living standards. Income generation became the focus of women and energy projects (Chapter 7), with the ultimate aim of assisting women's economic independence.

With regard to internal gender dynamics in donor organisations, in so far as development agencies appointed staff to attend to women/gender issues and ensure that these were included in project design and implementation, women began to develop a profile and a voice in some agencies. It is in the translation into practice that the policy and/or intentions are lost. A World Bank document on women and forestry notes that only one of the twenty-two Bank-aided social forestry projects, and only four of thirty-three agricultural projects with a forestry component appraised between 1984 and 1987 mentioned women as potential beneficiaries, despite this being an objective of the unit (Tinker 1992: 41). A closer examination of South African case studies in the following chapters reveals some of the many ways in which women are neglected despite good intentions.

## **Solutions and adaptation to fuel scarcity**

The consequences of biomass shortages and the variety of adaptations to fuel scarcity began to be documented in the 1970s and early 1980s, as did projects intended to ameliorate the shortages. This final section explores some of the major trends in the early literature: the impact on health and nutrition, and the three interventions most regularly posed as solutions: enhanced efficiency through improved stoves, woodlots

and the use of renewables. It may be useful at this stage to summarise the research framework which was established during this period. The conditions of wood users were defined from the outset by people who did not collect wood, and they were defined as *problems*. The problems seemed obvious:

- Collecting woodfuel is time consuming and physically arduous and becomes increasingly so as the number of trees close to homesteads decreases and the distance to the nearest source increases.
- The low heat intensities make burning wood for cooking inefficient: the opportunity costs outweigh the calorific value per load.
- Smoke from wood fires has a negative effect on respiratory systems, smoke from some biomass fuels is more unhealthy than others but is used in times of shortages.
- Shortages of wood or other fuels (a condition also known as energy poverty) leads to a variety of adjustments which had negative consequences for family nutrition and health, the environment, agricultural productivity and incomes.

The solutions also seemed obvious to energy for development specialists:

- Plant more trees so that wood stocks are replaced.
- Find ways to use less wood and to burn it more efficiently so available stocks last longer. This includes the development of efficient (also known as improved) stoves.
- Replace wood with more efficient and modern energy sources such as renewables, electricity or fossil fuels.
- Use fiscal and financial instruments to serve the poor and improve their energy services. (Compiled from Hoskins 1982; Tinker 1982; Cecelski 1984; Cecelski 1987; Dankelman & Davidson 1988).

One of the noticeable effects of fuel scarcity was on women's work, nutrition and family welfare (Dankelman & Davidson 1988: 71). Once women start to economise on fuel use they use lower quality but more accessible woodfuel, then crop and animal wastes. In using lower grade biomass fuels women spend more time tending the fire, there is often an increase in poisonous fumes, and their land no longer benefits from dung and waste nutrients leading to a reduction in living standards and diet (Leach & Gowen 1987: 53-55). Foley (1988: 39) disputes the importance of these nutrients and suggests that food availabilities are far more important than fuel scarcity in determining

diets. Lund Skar (1982) found that if fuel is scarce women will make changes to their cooking habits using more refined foods or partially cooked foods which take less time and fuel. Many will make do with left-overs, or cook fewer meals per day. The latter is said to be hard on small children who require several small meals during the day. Women are usually the first to have less or go without (Leach & Gowen 1987: 53-55; Dankelman & Davidson 1988: 71).

Apart from woodlots mentioned above, the major attempt to minimise wood use involves the introduction of a variety of improved stoves, usually by an aid agency. For the most part development workers have identified stoves as the solution. These have been designed and tested by professionals often in the laboratories of the donor countries. Thereafter they are introduced into developing countries - where women soon reject them. This seemed particularly true in Africa (Kammen 1995). In Central America, high mass mud stoves, known as Lorena, are popular because they harness the resources, knowledge and technology of local people. The stoves use human waste and supply not only gas but also organic material for vegetable gardens (Caceras & Cecelski, quoted in Dankleman & Davidson 1988: 79). It was suggested that the same be tried in Africa where women's groups should be included 'to ensure that energy planning becomes a central element in rural development' (Dankleman & Davidson 1988: 79). However a few groups of women have attempted to improve their own conditions. Sarin (1989) reports that the 'Nada Chulha' stove programme in North India grew out of women's desire to reduce smoke and cook more efficiently. The call for women's participation was important with regard to recognising women as users, but even when women were involved in the design and manufacture of stoves, they were not adopted in any consistent way, and the efficacy of many stoves in the field is questionable (Kammen 1995).

Other calls for including women in energy projects and design came from environmentalists (Bassan 1985) who documented numerous designs and innovative ways of promoting income generation in environmentally sound ways. Fifteen years later not much can be added to the advice in this book. There have been some successes such as the thirty-one cases of women and energy projects in the 1980s from Africa, Asia and Latin America which were recorded by Ofosu-Amaah and Philleo (1991). The successes in Africa range from solar electricity in the Sudan, to tree planting in Ghana, Kenya, Tanzania and Zimbabwe, to efficient stoves in Kenya, the introduction of biogas

in Tanzania and kerosene in Egypt, Madagascar, Nigeria and Burkina Faso. There is now a substantial literature on fuel efficient stoves in Africa (Kammen 1995; Khamati 1987; Kassambra & Traoré 1995). A background paper for an ITDG proposal for improved stoves programme from 1986-1989 reveals how many different income generating activities requiring heat are performed on domestic stoves at home: rice parboiling, cassava processing, maize processing, bread baking, beer brewing, fish smoking, oil extraction, street foods, weaning foods, sugar making, fruit and vegetable processing (Gordon 1984). There are many other home-based enterprises which require energy inputs as well, and all would benefit from improved energy use.

Other solutions involved fuel substitution, but the problem with commercial energy services such as electricity, coal, LPGas or kerosene is, of course, that the poor cannot afford them. The alternative, renewable technologies, have invariably been funded by aid agencies, with little potential of becoming self-sustaining, and limited consideration of what technological change will mean to, and require from, women at specific locations (Hemming 1982). Foley made a pointed comment about renewables:

As for renewable energies, it is now obvious that the fad for them is passing. The various gasifiers, biogas pits, solar pumps, windmills and other devices which were attracting so much attention five to ten years ago have shown themselves almost totally irrelevant to the household energy needs of most African countries. There is no prospect of such renewable energy technologies having any noticeable impact on household energy consumption patterns in the near or medium term future. Only in very special circumstances is the promotion of renewable energy technologies worth considering as an element in demand management strategies at the present stage. (Foley 1988: 15)

Twelve years later renewables have still failed to make their mark on alleviating energy poverty to any noteworthy degree, but the 'fad' for renewables was, and still is, far from over. The inability of developing countries to provide modern energy services to the majority of their populations in rural areas, in conjunction with concerns over climate change and the process of credit swaps, have brought renewables back into the limelight (Annecke 2002).

Mainstream household energy studies in developing countries continued in the 1980s and 1990s much as they had from the 1970s, sometimes with the acknowledgment of

women as bearing the brunt of responsibility for household energy use. In 1987 Leach and Gowen published a manual on household demand sector which is frequently cited. It is written within the fuelwood/ trees crisis paradigm. It does not problematise household or disaggregate household energy use. It provides a useful explanations and units of measurement for the beginner in the energy sector and is a good example of how mainstream household energy research has proceeded. It is not entirely insensitive to social issues but because these are not strictly measurable it does not include these in the systematic framework (Leach & Gowen 1987: 127-128). The need to involve local residents in energy decision making (Leach & Gowen 1987: 88) is a notable addition to the handbook and indicative of the attention that had begun to be paid to the idea of participation. However including women was still only an idea. Limited energy research had actually focused on women. In a bibliography of about 140 titles (excluding the UNDP/World Bank series on Issues and Options in the Energy Sector) there are only four which focus on women, 81 on biomass/stoves and 47 on other issues including policy, energy balances, national surveys on household consumption patterns and similar subjects (Leach & Gowen 1987).

The sheer numbers, an estimated two billion people, who do not have clean, safe fuels, must, despite the odd success, point to the overwhelming failure to address energy poverty. (DFID 2002:10)

### **In summary**

Although development experts and progressive developing country leaders agreed about the importance of development, development efforts and successes have been accompanied by increasing levels of poverty which have affected poor women most. There has been little agreement as to how to eradicate poverty, and little to show in the way of accomplishment (Goldemberg et al 1987: 21). As one approach failed, others are tried but all have remained within the same paradigm of economic growth which, in itself does not eradicate poverty. The content of growth and the distribution of its benefits are also important, and poor women do not appear to have received their fair share of either. This chapter has provided some evidence of the extent to which theories on development, and energy for development, were dominated by men to the exclusion and disadvantage of women, and how, through the efforts of women and men, some attention begun to be paid to women both as workers in development agencies and as

targets of development efforts. The WID, WAD, GAD debates account for some of the debates about how women should be included in development.

In the energy for development sector, the intention was to modernise the energy sector by moving populations up what is known as the energy ladder; from using biomass fuels through kerosene and gas to electricity. When these supply side strategies and electrification failed to achieve the desired goals, attention shifted to examining household energy use. Where there are no modern fuels, the fulfilment of daily energy requirements occupies a significant amount of (predominantly) women and children's time and effort each day, most of the research has attempted to make these tasks visible and measurable. It is in this field of household energy use at the micro-level that women have more currency than in other areas of the energy sector. The 1970s and 1980s saw the emergence of a small, marginal and relatively insignificant group of mostly women who began to pay greater attention to women and energy use in the context of their everyday lives. The phrase 'women's energy needs' entered international development discourse and literature (Hoskins 1982; Tinker 1982; Cecelski 1984). We note the emergence of calls for (poor) women to participate in household energy planning and projects that affect their every day needs to meet their productive and reproductive obligations. These calls are justified by pointing out that poor women's responsibility for biomass has disastrous direct effects on their health, their time, and on the environment, and are invariably connected to arguments about the benefits that would accrue in terms of economic development if women were able to fulfil their roles more easily. That is, the women and energy literature developed around meeting women's practical needs and ways to ameliorate poor women's burdens through assisting them to acquire the necessary energy services to get their work done. Solutions have generally included improved cooking stoves, woodfuel projects, the substitution of biomass with renewables and income generating projects targeted at women. This is, of course, the archetypal modernisation paradigm in action in a WID framework. The problem with this approach (assisting women to do 'their work' more easily) is that it may serve to entrench those roles rather than challenge the manner in which they are defined as women's. The women and energy development expert's task was not to address



women's strategic gender needs<sup>24</sup> nor to question the relations of power and privilege which define and perpetuate these conditions. The privileged women from developed countries were able to point out the faultlines which produce these inequalities but are discouraged from instigating any action which may disrupt social relations or relations of power other than in their own organisations.

People working with women and energy have been successful in transforming an invisible, un-researched phenomenon into a well-researched and thoroughly described area of activity, albeit a marginal one. There is little in the way of thick description that is not known about women in developing countries energy use patterns. The descriptions have been largely mono-directional, defined by those with the power to do so, but the degree to which women internalise and perpetuate their domestic roles is explored in the following chapters. Other factors in the research which have changed are closer attention to the notion of 'household', which has been problematised. In conjunction with a growing critique of 'household' and 'family' by anthropologists, feminists and women working in development in the 1960s and 1970s, the notion of a nuclear household came to be replaced by more complex understandings of households. Individuals in the household have different access to and control over energy services and these began to be defined. However all these efforts including targeting women in energy projects have proved to be insufficient to make any real improvement to levels of energy poverty. In 1985 Barnard wrote:

Worldwide about 800 million people now rely upon residues for their energy needs. The tragedy of this dependency on wood is that it is being depleted more rapidly than any fossil fuel, and that its consumers have little political power. (Quoted in Dankelman & Davidson 1988: 68)

In 2002 it is estimated that two billion people do not have access to modern energy services (DFID 2002:10), and it is likely that women are the most affected by this. Themes of women's participation and exclusion, visibility and invisibility, power and powerlessness in the energy for development sector in South Africa are explored in the

---

<sup>24</sup> It may be the case that third world women would describe their strategic needs somewhat differently to the way in which Moser (1993) and other first world women have.



following chapters through the history of the commercial development of the sector in the era of apartheid and after.

## **CHAPTER 3**

### **A brief history of the location of women in the South African energy sector as it developed from pre-colonial times to 1990**

Having reviewed the international literature that provides the context for the emergence of women and energy in the energy for development sector, we turn now to South Africa. This chapter explores the extent of the participation of women in the energy sector of South Africa until the 1990s. For the most part of the last century race superseded gender as an organising principle so that the chapter highlights the race as well as the gender biases which developed within the energy sector in South Africa and shaped the society as a whole. The roles of women, both black and white, were initially so limited as to render women invisible. There is an absence of women as owners, decision makers, employers and employees in the energy sector. Increasing numbers of women entered the workplace during and after the World War II and this would have included women clustered as secretaries and administrators in energy institutions. After the war an interest was shown in middle class women as users of electricity in the household and as a ready market for household appliances. Still later, in the 1970s and 1980s, the names of women researchers began to emerge alongside men's, however the number of women in senior positions, research or otherwise, was negligible.

Material used to explore these issues includes historical accounts and the only formal audit of women in the energy sector which was done by Ruiters (1995). Ruiters' audit has been the primary contribution to enumerating the dimensions of race and gender composition of the energy sector and is used to assess the presence of women prior to 1990. It was conducted at a time when attention was beginning to be paid to the inclusion of women in the sector. Thus, if anything, the statistics exaggerate the number of women in the sector prior to 1990, but does not reflect recent appointments and the

increase in the number of women employed since 1995.<sup>25</sup> Many of the more recent changes are accounted for in the last chapter. Ruiters' report had two objectives:

- to investigate the extent to which black men and women South Africans are represented in the energy sector; and
- to survey the policy initiatives aimed at redressing the under-representation of black and women staff at all levels in the energy sector. (Ruiters 1995: 1)

Empowerment was not a concept in use in the energy sector in the period under review, so that apart from a few brief comments and a note that white men empowered themselves in terms of access to and control over energy resources, discussion on empowerment is deferred to Chapter 4 onwards.

The apartheid era exerted particularly strong influences on the South African energy sector which was structured around ideological and sanctions-induced needs. One of the effects of this was a lack of public information about sub-sectors. Comprehensive descriptions of the energy sector before 1994 were not possible because the secrecy surrounding the liquid fuels and nuclear capabilities meant that limited data was available. The Petroleum Products Act (No 120 of 1977) prohibited the disclosure of any information relating to petroleum (Eberhard & van Horen 1995: 18). Penalties for contravening these laws were severe and there could be no doubt about the government's determination to maintain secrecy in the electricity supply industry as well. Renfrew Christie was arrested in 1979, held in solitary confinement, and given a ten year sentence for conspiring to obtain and provide the (then banned) African National Congress with information on the energy sector in South Africa (Christie 1984). Prior to 1990 the lack of data and transparency was a major obstacle to knowledge and understanding of the sector. The lack of good data was still being felt in 1996 by the International Energy Agency (IEA) (Trollip 1996: 6-2), and by James and Simmonds (1996) in trying to compile the Women's Energy Budget. However there has been some improvement, the last decade has seen greater transparency and since 1990 several overviews focusing on different aspects of the sector have been compiled (Auf der Heyde 1993; Gandar 1994; Trollip & Eberhard 1994; Anderson 1995; Wang &

---

<sup>25</sup> Since there have been many changes particularly since 1998, the survey needs to be updated.

Dutkiewicz 1995; IEA 1996; Fine & Rustonjee 1996; Trollip 1996). Since this material is now available only the briefest explanation of the sector is provided, thereafter the emphasis is on women's part (or otherwise) in a brief history of each of the sub-sectors.

South Africa is rich in natural resources which are potential energy-carriers and has the ability to manufacture others. An abundance of coal which is relatively cheap to mine, underpins most activities in the South African energy sector. It is used in its raw state for space heating and cooking by millions, as well as to generate electricity. Other sources of energy include oil-based fuels such as petrol, diesel, Liquid Petroleum Gas (LPGas) and paraffin which are both imported and manufactured locally. In terms of manufacturing, natural gas, found off the south-east coast, is converted to petroleum products, while nuclear energy from the nuclear plant at Koeberg contributes 1% of the electricity carried by the national electricity grid.<sup>26</sup> Most electricity is generated at coal-fired power stations and hydro-electric plants. The full potential of the group known as renewables, (waves, water, wind and solar energy), has not yet been realised, although some experiments in this direction have been conducted (see Chapter 3), and fears of the consequences of climate change have provoked new interest (Annecke 2002, 2002a). Biomass fuels (wood, crop waste and dung), which are also still used by millions (Eberhard & van Horen 1995: 54), are sometimes, although arguably, included in the renewables group. The electricity and petroleum industries are highly regulated, the coal, wood fuel and renewables less so (Eberhard & Van Horen 1995).

The history of the energy sector is the history of colonisation, industrialisation and modernisation with all its complexities. The colonisation of the Cape from 1652 signalled the beginning of an era in South Africa during which race superseded class and gender as a mechanism for stratification in South African society and the racial divisions rooted in, and perpetuated by, the energy sector were particularly intense. The visible history of power and decision making in the energy sector has been that of white men as landowners, with white women as their dependents, and the concern of this

---

<sup>26</sup> The controversy surrounding nuclear power generation, and the utility's penchant for extending generation power through pebble bed reactors instead of green electricity, is not engaged here (Annecke 1998a). In the north anti-nuclear protest has a gender dimension (Cecesi 2001a). In South Africa the debate is fierce but confined to a small group and has no discernable gender dimension.

chapter is to elucidate some of the conditions which determined the gendered politicisation of the energy sector. The exploitation of diamonds and gold from 1860 onwards and the concomitant development of the electricity industry from 1882 heralded the industrialisation of South Africa and provides the primary context.<sup>27</sup> Black men worked in the public sphere, albeit out of sight – underground in mines and as labourers in the electricity industry – while women, both black and white, maintained their roles in the domestic sphere. However the divisions between women were drawn by race and class, with black women invariably subordinated to white. The following sections enumerates briefly how these dynamics played out in the histories of each of the sub-sectors.

### **Mostly men write about wood use in South Africa**

Using trees for fuel and building materials has been the prerogative of all people over time, and the indigenous people of South Africa had been acquainted with the uses of wood and fire for millennia before the colonists arrived (Hall & Maggs 1979; Freely 1980). Mark Gandar<sup>28</sup> (1988: 247-248) chronicled the history of wood use in South Africa and showed that pressures on wood sources and the environment pre-dated the settlers by centuries. His starting point was the early settlements in South Africa, dating from about 300-500AD, and the people who, for about 600 years, settled primarily where trees were plentiful because they need significant quantities of high quality wood for smelting iron as well as wood for building materials and firewood. A 17<sup>th</sup> century archaeological site near Babanango in Zululand has revealed that stone rather than wood was used for building and that a considerable amount of dung was used for fuel, from which evidence Gandar concluded that shortages of wood have been a feature of at least some rural lives for a long time. Gandar speculated that wood collection was probably

---

<sup>27</sup> Marks and Atmore (1980) offer an introduction to understanding the complex and layered social formations in South Africa before the exploitation of minerals and the development of the energy industry.

<sup>28</sup> Mark Gandar, whose work could have put him on a path to international fame and fortune, rejected this. Instead he chose to maintain a low profile and close involvement with people 'on the ground'. His untimely death in 1998 was a great loss to the energy and development community.

part of the women's gathering tasks for although these settlers had crops and livestock it is likely that some hunting and gathering still occurred (Gandar 1988).

When the Dutch under van Riebeeck's command landed at the Cape in 1652 they too relied primarily on wood for heating and lighting, and were knowledgeable about how quickly forests could be destroyed. Very soon after they arrived, laws were passed governing the chopping of trees and collection of firewood (Gandar 1988). In 1683 Simon van der Stel, the Governor of the Cape, issued warnings against the flagrant disregard for these regulations, and the first afforestation schemes began. However Hout Bay and the cedar forests of the Cederberg continued to be felled by settlers for building material and furniture, and, not having the necessary mechanisms in place, or viable alternatives to offer, regulations were not enforced (Gandar 1988). The predominant belief, on which many energy alternatives are premised, is that trees are seldom regenerated at the rate at which they are cut down, and that the elimination of trees is shortsighted because it leads to further changes in the natural environment. From an energy perspective, the early shortages of firewood at the archaeological and diamond digs is illuminating since the trend in the development literature of the 1970s onwards was to criticise the short-sightedness of indigenous women for collecting the wood around them, as if it were a new phenomenon.

The pattern of destruction of woodlands repeats itself wherever people settle for any length of time. In September 1871, the owners of *Vooruitzigt*, the farm on which diamonds were found, were forced to prohibit the cutting down of trees. 'It is perfectly barbarous,' commented the *Diamond News*, 'the way in which beautiful trees within the precinct of the camp, which should form a most grateful shelter during the coming summer months, are being hacked and hewn to pieces' (Roberts 1976: 160). Writer Anthony Trollope commented in 1877 about New Rush: <sup>29</sup>

I do not think there is a tree to be seen within five miles of the town... I doubt whether there was a blade of grass within twenty miles, unless what might be found on the very marge of the low water of the Vaal river. (Quoted in Roberts 1976: 160)

---

<sup>29</sup> New Rush became Kimberley in 1873.

Since the prospectors had so rapidly depleted the available wood supply, firewood had to be transported to the camps and could cost anything up to £3 a wagonload (Roberts 1976: 78). Black people conducted some of this trade. Worger (1987: 64) does not mention whether men or women were involved, but he records that in 1870 firewood and foodstuffs were sold to miners by blacks who were operating from their lands close to the diamond fields. These enterprises, which enabled some black people to be independent and self-sufficient, were frowned upon by the entrepreneur Cecil Rhodes who hoped that the opening of the railway from the Cape to Kimberley in 1885 would reduce the options for black producers. Supplies arriving from the south did indeed reduce the town's dependence on locally supplied wood and produce. Fuel costs dropped as wood traders lowered their prices to remain competitive with Cape coal (Worger 1987: 106). This provides an early illustration of competition in the energy market, deliberate manipulation to ensure black people did not have power through independence and equity, and of the unevenly experienced benefits of modernisation (the railway). Women, both black and white remain in the background at this stage, although both were using wood for domestic purposes. It would have depended on circumstances, class and status how close white women came to the actual tasks of collecting and cooking or whether these were performed by black servants or slaves.

Gandar (1988) found that in 1881, the wood requirements of the black population were first recorded by Harran, a District Forest Officer, and Lister who began growing the first woodlots near King William's Town in the Eastern Cape in 1893. Woodlots were, and still are, perceived as one of the solutions to the woodfuel crisis (Eckholm 1975), although they have been largely unsuccessful in replacing fuel stocks. Over the next twenty years, further wattle plantations were established in the Ciskei and the Transkei. Concerns about firewood shortages were expressed in Basutoland (now Lesotho), by Heywood in 1906, but serious efforts to establish trees were undertaken only in the 1930s (Gandar 1988). Wood continued to be used both as building materials and to manufacture building materials (firing bricks etc) and as the primary source of fuel by most women through the 20<sup>th</sup> century. As will be seen, once whites had electricity, wood use remained invisible to energy officials until the 1980s, when Eberhard and Gandar (1984) conducted studies for SALDRU. Ten years later Clive van Horen, recognising that women still bore the brunt of the physical work entailed in collecting wood and water, and that this time and labour is unpaid, attempted to calculate the economic cost:

Using conservative estimates of an average of 5 hours a week spent collecting fuelwood, at an imputed labour cost of R2 per hour (equivalent to a cash wage of about R350 per month), and one woman collecting wood for each of about 2.9 million unelectrified households, then the total annual opportunity costs of fuelwood collection is in the region of R1.5 billion. This is highly significant. (Van Horen 1994: x)

It is highly significant and still under-valued in the national accounting system (Waring 1999).

### **Few women in the petroleum, coal and the nuclear fuel industries**

As with electricity, the histories of the petroleum, coal and nuclear fuel industries have been male dominated and highly politicised. One of the early international investors in South Africa was an oil company which opened in Cape Town in 1897, when liquid fuel imports had reached sufficient quantity to justify such an operation (Trollip 1996: 4-16). For the next half-century all liquid fuel continued to be imported and the products marketed and distributed by the local subsidiaries of four international companies: British Petroleum, Caltex, Mobil and Shell. In 1954 Standard Vacuum Refining Company, which later became Mobil Refining Company, commissioned a crude oil refinery in Durban. This was the only one of its kind for ten years, thereafter Shell, BP and Caltex followed suit in relatively rapid succession (Trollip 1996: 4-16). The oil crisis of the 1970s coincided with increasing isolation of South Africa and the introduction of economic sanctions. The United Nations-led oil embargo spurred the Nationalist Party government to seek self-sufficiency and energy security (Eberhard & van Horen 1995: 16) and the petroleum sector was developed with massive state funding and intervention. Billions of rands were spent on developing Sasol and R12 billion on Mossgas, both synthetic petroleum plants. Eberhard and van Horen (1995: 16) argue that while the investments in petroleum production result in savings of foreign exchange, 'the cost to the economy has been enormous and the opportunity for investment in more productive social infrastructure has been squandered' (Eberhard & van Horen 1995: 16). There were however only a few progressive men who held this belief during the 1980s, and evidence and information to support such reasoning would have been difficult to obtain. The Petroleum Products Act (No 120 of 1977) prohibited the



publication, releasing, announcement, disclosure or conveyance to any person of information or the making of comment regarding the source, manufacture, transportation, destination, storage, consumption, quantity or stock-level of any petroleum product acquired or manufactured in the Republic. (Eberhard & van Horen 1995: 18)

It also prevented open, informed public debate on the development of the petroleum industry. Thus research and development in the petroleum sector has obviously been from the supply-side, focusing on technology and production for the powerful sectors of commerce, industry and transport. Prior to 1990 few women had the educational qualifications necessary to take their places in the industry (Budlender 1994). There were few white women and practically no black women chemical engineers or women in decision-making positions in the petroleum industry. In 1994 Ruiters collected data from the Moss gas, Sasol, Total, Caltex, Shell, British Petroleum, Engen, and Zenex and found that 10% of the staff in the petroleum industry were women. Of these 16.7% were employed in semi-skilled-unskilled positions; 79% held skilled/supervisory positions, 4.1% were in managerial positions and 0.03% were employed in senior managerial positions (Ruiters 1995: 21). This compares poorly with other developing countries such as Pakistan and China where great efforts have been made to train women chemical engineers and women hold many senior positions (Lele 1988).

The place of women in the petroleum industry was largely as consumers of paraffin, but as such they were all but invisible to the industry and to the Department of Minerals and Energy Affairs. Paraffin for household use was not an area of economic or political interest. The first studies on paraffin use in households were done in the early 1990s by Annecke and Ross and are discussed in Chapter 5. However the harmful effects of hydro-carbon fuel use (paraffin and coal) had been noticed by the health sector. In the late-80s Terblanche et al (1993) from the Medical Research Council did pioneering work on the socio-economic costs of paraffin poisoning and levels of air particulates in coal burning households for the health sector. The environmental impacts, especially on

air quality, of biomass and hydro-carbon fuel use are taken up in Chapters 7 and 9. The participation of women in coal mining was effectively nil.<sup>30</sup>

The other area in which the liquid fuels industry holds sway is the transport sector, but this does not fall within the ambit of the Department of Minerals and Energy. Prior to 1990 there was little interest in transport for poor people including women (the taxi industry grew organically in response to unmet demand and was not formally recognised or regulated until after 1990). Women's use of transport remains under-investigated and gender disaggregated data on use of public transport (rail, buses), taxis, and private vehicles is difficult to find (Wonfor 1998).

The nuclear industry was also male dominated and highly secret. In 1946 Prime Minister Jan Smuts appointed a Uranium Research Committee, The Atomic Energy Act was passed in 1946, and the Atomic Energy Board (AEB) appointed in 1949. In 1952 the first uranium produced was sold to the Combined Development Agency of Britain and the United States of America (Trollip 1996: 4-58). By 1969 South Africa was moving away from the concept of a natural uranium reactor to an enriched uranium reactor for the generation of power. By 1977 there was evidence that South Africa was about to test nuclear explosives (Christie 1984: 186-189). By 1988 R705 million was being poured into developing further capacity (Trollip 1996: 4-58) while millions of people remained without electricity. The uranium industry requires significant input and would not be feasible without the cheap electricity which Eskom was able to generate by keeping labour costs low. There were few women nuclear scientists before 1990 and the number does not appear to have increased significantly. The nuclear industry employed the lowest number of black women – only 0.8% of total staff, 87% of whom were employed in semi-skilled or unskilled positions. A total of 16% of the staff were women, 68% of whom were employed in semi-skilled or unskilled positions. White

---

<sup>30</sup> The first women miners were black women employed on a gold mine in the Free State in 1999, but since then the Minister has encouraged women to enter mining and there are a number of women-owned small co-operatives mining coal.

males constituted the largest group and filled all of the senior top management positions (Ruiters 1995: 22).<sup>31</sup>

### **A brief history of the electricity sector**

The exploitation of diamonds and gold in 1870s and 1890s respectively and the ready availability of coal brought the industrial revolution to South Africa and changed the daylight working rhythms in South Africa. The links between mining (gold and coal, but also diamonds and uranium) and energy, primarily electricity, are made abundantly clear in the literature (Roberts 1976; Christie 1984; Worger 1987; Rustomjee & Fine 1997). Christie and Worger provide evidence in their analyses of how the industries functioned at the behest of capitalists, producing, as they developed, the kind of racial capitalism (including the Pass Laws, migrant labourers, compounds and hostels) for which South Africa became internationally infamous. The association of electricity with mining, commerce and industry, has not diminished over the years and coal remains the single most important ingredient in the energy economy. Fine and Rustomjee argue that the combination of mining and energy, the Minerals-Energy Complex (MEC), that lies at the core of the economy can be traced back not only to the history of mining in Johannesburg, (Fine & Rustomjee 1996: 5). Actually it can be traced back even further to Kimberley where the mining groups co-operated to finance and build the first power station to supply their needs. Defining exactly what these needs were (and are) highlights the all-encompassing nature of the Minerals-Energy Complex. The history of the power sector is given in some detail because it is so highly politicised and genderised, and the Minerals-Energy Complex is of considerable importance in understanding social relations between black and white, men and women in South Africa. The politics of electricity provision are still being felt today with regard to households that remain without grid electricity (poor, black, rural and often in previous

---

<sup>31</sup> In 1994 the nuclear industry employed 2945 people in 1994, excluding staff at Koeberg, 14.3% of the staff were black, 95% of these were in semi-skilled on unskilled positions. Ruiters makes a case for an education, training and development policy and a new approach to including black and female staff in the higher echelons of the organisation, in order to bring the sub-sector into line with the gender equity clause in the constitution.

apartheid 'bantustans'), and in the 'corporatisation' of the utility when the union fears that workers' jobs will be lost. The ambiguity of the word 'power' meaning both electrical and political force, foreshadows the relationship between electricity and social control (Christie 19: 2). Marks and Atmore (1980: 7) argue:

When in the last couple of decades of the century, international mining capital came to play the major shaping role in the sub-continent, this was a powerful new dimension to the pre-existing struggle to regulate the means of production of the various social formations within the area, and extract from them their surplus labour power.... Contrary to the conventional wisdom which locates the origins of contemporary *apartheid* on the seventeenth century 'Cape frontier', it was probably not until this time that a fully fledged ideology of race, nurtured in the material conditions of late nineteenth-century imperialism, came to be enunciated in South Africa as 'the (ideological) means for the reproduction of a particular mode of production'.

In order to be able to accumulate wealth the sector 'needed' and produced a variety of social and political controls. It is a sector where white men, with specific agendas and powers, have been dominant, and its narrative is one of political and financial negotiations, intrigues and alignments. The influence of this early history is still strongly felt a century later. From the compulsion to keep wages low, through the patterns of surveillance<sup>32</sup> and control, the suppression of black workers, the accumulation of wealth in the hands of a few whites, first the British then the Afrikaners, to the constant modernisation and automation of the mining and electricity supply industries which continually reduced the number of jobs available to black workers while the state assisted poor whites, the state and capital – represented by white men – worked together to enforce the poverty of most black people (Christie 1984).

---

<sup>32</sup> 'The role of electricity in the surveillance of black people in South Africa has included electrical devices of social control.... [P]ower is used to protect private property and the state's interests by means of lighting, burglar alarms, telecommunication systems, anti-guerrilla personnel detectors, propaganda broadcasting, movement control computers.' (Christie 1984: 2)

'White men' is not a self-evident category, and should be disaggregated as carefully any other. However there are discernible characteristics and consequences, which distinguish a particular group of white men associated with state interests and the energy sector, from others. Christie finds this particularly the case in dealing with decision makers in the electricity sector and engineers. There is an attempt to describe the shared characteristics (hegemonic masculinities) of this particular group of white men, in order to clarify the term 'white men' as it used throughout the thesis. This is done briefly before returning to the history of electrification of Kimberley.

The white men in mind are typified by those leaders of South Africa, from Botha and Smuts to Verwoerd and Vorster, who played special attention to electricity. Bernard Price and Hendrik van der Bijl, close allies of Smuts, and of the same ilk, were responsible for the vision and the construction of the industry and played very important roles in shaping access to electricity and the contours of the social order. The political, economic and technical achievements of electricity are formidable and have made possible transformations of the labour process and society in general (Christie 1984: 205). This included the entrenchment of attitudes and ways of thinking that have had emotional and psychological as well as material consequences. Christie (1984: 3) defines the latter as the traits of engineers and their milieu<sup>33</sup> and argues that his study

examines the part played by the electrical engineer and his industry in a society undergoing industrial revolution in the twentieth century. It shows that because the electrical engineer and his industry are the servants of capitalists and the capitalist state, the role of the electrical engineer is to increase capital accumulation, rather than improve the lot of the common people.

This neglect of the conditions of the majority has meant that access to electricity is a political issue. Most engineers (white men) regard electrification a procedure of technical and financial considerations only. This is Johan du Plessis, the Chairman of the National Electricity Regulator's introduction to the report on the progress of the accelerated electrification programme in *Lighting Up South Africa*:

Electrification is by its very nature a process dominated by technical and financial considerations. (National Electricity Regulator 1995)

Who gets electrified, at what stage and at what cost, depends largely on those (white men) who have power over the technical and financial resources to make the decisions. Prior to 1994 black people had little formal power and it showed in the neglect of the electrification of their homes.

Further evidence of the white male attitudes and assumptions in question can be found in numerous texts which provide some indication of the structural, patriarchal and semantic barriers that women entering the sector have to negotiate. One of these is Eskom's version of the history of the electricity sector. Apparently bland, factual and neutral, the bias lies not in what is said but what is omitted. The utility neglects to mention how it omitted black people from its electrification planning (Eskom 1995). Yet another example comes from the Minister of Minerals and Energy, 'Pik' Botha's introduction to the Green Paper (the Draft White Paper) on national energy policy in 1995. His welcome reveals no evidence of awareness of his patriarchal and patronising tone, nor of perpetuating the stereo-types which the Women's Energy Group was working hard to counter at the time:

Now is our chance to bring the energy of the Industrial Revolution to the humblest squatter, the mother urging her children to their homework, the tired father who seeks to enjoy some television, the baby who may otherwise shiver through the winter, the office clerk studying into the night to become a lawyer. Join me in this opportunity. (Botha 1995)

As evidenced by Christie's work, not all white males were blind to the politics of electrification. Here is a white male writing from a rather different perspective. This is David Nye's opening paragraph in *Electrifying America: Social meanings of a new technology, 1880-1940*:

---

<sup>33</sup> Christie clearly regards himself as belonging to a group of white men with characteristics and ideologies different from those of 'engineers and their milieu'. A defining characteristic of 'white men' as referred to in the thesis, is gender blindness (which Christie shared).

A technology is not merely a system of machines with certain functions, it is part of a social world. Electrification is not an implacable force moving through history, but a social process that varies from one time to another and from one culture to another. In the United States electrification was not a 'technology' that came from the outside and had an impact on certain things. Rather, it was an internal development shaped by its social context. Put another way, each technology is an extension of human lives: someone makes it, someone owns it, some oppose it, many use it, and all interpret it. (Nye 1990: 1)

Christie's study was produced earlier and was equally politically aware. As mentioned Christie's PhD thesis of 1979 entitled *Electricity, Industry and Class in South Africa*, was considered so dangerous that it resulted in his arrest and confinement. Colleagues later turned the thesis into a book (Christie 1984) which is used here extensively despite the fact that women are largely absent from Christie's study, because there are few historical texts about the energy sector and research.<sup>34</sup> As explained in Chapter 1, Christie is one of many men who side-step 'the women question'. He explains:

This work examines domestic, manufacturing, transport and mining electrification. Nor is the sexual division of labour treated here: the number of black women electrical engineers in South Africa is nil or negligible, but having recorded that fact its explanation is left to others more qualified. (Christie 1984:2)

Politically progressive white men such as Christie may be aware of women's struggle for equality but are not necessarily allies. For the most part the study uses 'white men' with the characteristics of the engineers and technocrats above in mind, as it returns to the history of electricity.

At the end of 1881 the Town Council of Kimberley was authorised to negotiate with the Cape Electric Light and Telephone Company for electric street lights for the 'dark, often dangerous streets' (Roberts 1976: 190) and after a few abortive attempts, some public buildings were lit up and sixteen standard lights were switched on every night. Thus it

---

<sup>34</sup> Alexandra Hofmanner is working on a PhD thesis on the history of energy research in South Africa which looks at the role of figures in the major universities and institutions such as the CSIR.



was that in 1882 Kimberley became the first town, even before London, to have streetlights on a reticulated electricity system. White men, already in control of the mining groups, collaborated to accomplish this feat, and South Africa became one of the first countries to use electricity on a commercial basis (Eskom 1995). The function of electrification echoed the ambiguity of 'the power sector' – it was used at night for surveillance and to ensure the safety of the central streets, where the white diggers lived. Later electricity was used in the mechanisation of the industry and resulted in the shedding of black labourers. The compounds where black people lived were not lit, setting a precedent of exclusions for the future. Electrification of white areas, industry and commerce, once started, continued apace. In 1887 Kimberley became the first town in South Africa to run an electrically powered tramway (Roberts 1976: 239).

What were women doing while the men laid claims to land, dug for diamonds, drank, and initiated electrification schemes? Initially there were very few women in the frontier mining towns and diamond diggings. The majority of women at the diggings played the roles of nurturing and support expected of them, and supplied the daily reproductive tasks required to service a work force. Many participated in productive activities as well. A Mrs Jardine, who ran the hotel at Pniel and later at Kimberley, was one of the few women already established in the hinterland. She was called 'mother' by many (Roberts 1976: 24), and black servants at her establishment probably fulfilled the washing and cooking needs of single men who could afford to pay. In the 1870s white women arriving at the diggings were mostly married and had little time for entertainment. Roberts (1976: 66) records that white women were seldom seen at bars and canteens, and that they found camp life particularly tough:

Most of them spent their days sweating over the sorting-tables and then, dead beat, had to return to the tents and attend the needs of their families. Unlike the men, respectable women were unable to escape to the canteen after a hard day's work.

Even (perhaps especially) in remote areas gender roles were inescapable and women were expected to carry a double burden of work. There were few other women with whom to make friends, so white women were likely to be lonely, in addition to which there were very few black women too, so it was very difficult, even for those whites who could afford it, to get domestic help (Roberts 1976: 78). Friendships between black

and white women seemed unlikely, however dusty, hardworking and lonely the white women may be and whatever status the black women may hold. Those friendships across the colour bar that did exist may have been among women of ill repute who fell into a different social category. There were a number of black and white prostitutes in Kimberley.<sup>35</sup> The latter included among their number 'Blonde Venus' (Roberts 1976: 85) but the names of the black prostitutes are not as well known, as the patterns of racial privilege were carried into and continued at the diggings. There were considerable racial tensions among the men at the digs. The workforce was divided by job and race, and for whites this was sanctioned by an ideology of superiority (Roberts 1976: 85). Conditions for poor whites on the diamond diggings and gold mines were harsh, but they were paid better and not subjected to the same surveillance and violence as black workers. Race determined allegiances between men and women, and women identified with 'their men' – black or white, rather than other women of a different race. An illustration of this was to be found in the pass laws and in the attitude to body searches.

Surveillance of movements and body searches became an issue when economic conditions deteriorated, profits declined and Illicit Diamond Buying (IDB) increased (Worger 1987: 118-146). Employers sought to regulate every aspect of workers' lives and insisted that every job seeker and employee carry a daily pass (Worger 1987: 115). The pass laws were hated, but they were not new, in 1760 the first pass laws were applied to slaves at the Cape and some fifty years later 'Hottentots' had to carry passes if they moved between districts. By 1827 all Africans from outside the Cape had to

---

<sup>35</sup> Snippets of information about prostitutes in Kimberley are to be found in van Onselen (1982). A chapter entitled 'Prostitutes and proletarians' documents the activity of prostitutes in the township of Johannesburg after it was first proclaimed in 1886, and in note number 8, van Onselen records that 'Kimberley had, of course, experienced its greatest influx of prostitutes in the 1870's' and that a fictionalised account may be found in JR Couper, *Mixed Humanity* London, no date. Van Onselen notes that in 1885 the enforcement of the Contagious Diseases Act in coastal towns saw the migration of many prostitutes to 'various inland centres, including the mining town of Kimberley, which was blessed with a considerable number of bachelors. This comparatively minor influx of prostitutes to the diamond fields, however, simply succeeded in raising the wrath of the local middle classes who thought that the town had seen the last of its 'rough and ready' days' (van Onselen 1982: 106).

carry passes (Callinicos 1981: 39). When daily bodily searchers were introduced at the diamond mines there was an outcry that white men should not be reduced to stripping bare as black men had to, and white women were fierce in the protection of their men. Worger (1987: 160) quotes a letter from 'A Sympathising Wife of Once a Claimholder' to the *Daily Independent* 16 July 1880:

It is more than I can bear (and I know I have fellow sympathy in this respect), to think my husband – once a claimholder – should have to submit to such indignity... Only put it to yourself, the ill effects it would have on our children to see their father, who has always been an example of honesty, to have him placed on a level with the natives, who as a rule, do not consider stealing a sin – in fact their only sin in this respect is being found out. Then why place a white man on a level with a black?

Once Kimberley was an established town, a class of white women emerged who fell 'naturally' into the role of hostesses and organised cultural events and the celebrations, such as grand welcoming party for the railway when it arrived in Kimberley (Roberts 1976: 294). Their relationship to the energy sector is tenuous to say the least. On the other hand there was Olive Schreiner who did not agree with the way in which the social relations were being constructed and regulated and was vocal in her protests (Roberts 1976: 295). Schreiner joined her brothers and sisters at the diggings at New Rush for about ten months in 1872 and moved back to Kimberley for four years in 1894. Both she and her husband, Samuel Conwright-Schreiner found the Masters and Servant Act<sup>36</sup> which allowed employers to administer corporal punishment, repugnant. Although they strongly opposed the Prime Minister of the Cape Colony, Cecil Rhodes, in this (Roberts 1976: 298) their protests had little effect and the legacy of control of workers through physical violence, practised frequently on the diamond mines from the 1870s onwards, remains part of the legacy of South African mining (Worger 1987: 110-146). Other noteworthy women in the early days of Kimberley included Sister Henrietta Stockdale who has been credited with starting nursing at the Carnarvon Hospital in Kimberley, and Marie Bocciarelli, South Africa's first woman pilot (Roberts 1976:

---

<sup>36</sup> This act was repealed only in 1974, by which time it had been made redundant by other labour legislation (Bundy 1975).

354). However there is little recorded about black women in Kimberley at the turn of the century, and apart from those (black and white) women involved in IDB scams (Roberts 1976: 203), little to connect women with the development of the Minerals-Energy Complex.

The pattern of the electrification of Kimberley was to be repeated throughout South Africa. Urban municipalities soon followed Kimberley's example, using the most sophisticated technology available at the time. In 1891 a reticulation system was first installed in Johannesburg. Cape Town and Pretoria followed suite in 1894, Pietermaritzburg in 1896 and Durban in 1897. Thereafter East London (1899), Bloemfontein (1900) and Port Elizabeth (1906) lit their streets (Eskom 1995). After 1890 and the Jameson raid, Kimberley's importance faded almost as rapidly as it burgeoned. Once the limits of the diggings were known and gold was discovered on the Witwatersrand, the locus of growth shifted quickly to the gold mines where the demand for electricity grew rapidly. This growth saw the proliferation of generation units throughout urban areas primarily for commercial and industrial use. By 1905 there were twenty-four small power stations supplying electricity for urban street lighting, domestic lighting and the tramway systems of Cape Town, Port Elizabeth, East London, Durban, Pietermaritzburg and Kimberley (Christie 1984: 5). Arc lamps at the docks in Table Bay extended the working day and permitted surveillance of dockworkers at night (Christie 1984: 5). The total generating capacity of these small power stations was just 18 megawatts and the mines began to need more.

The Victoria Falls Power Company Limited (VFP) was registered in 1906 with the object of harnessing the Victoria Falls for the supply of electricity on the Witwatersrand and in Southern Rhodesia, now Zimbabwe. 'It is fitting that so romantic an idea as the use of the Victoria Falls to power Rand gold-mining was first presented to Cecil Rhodes by Rider Haggard, whose novels had contributed so much to the romantic notions of the Southern African frontiersmen' wrote Christie (1984: 28). However, appealing though the idea was to these extravagant egos, the technical and financial considerations made it impractical and the project was abandoned (Eskom 1995). The VFP then turned its full attention to the exploitation of coal in the Transvaal, and by 1915 it operated four thermal power stations under the name of the Victoria Falls and Transvaal Power Company (VFTPC). At one stage, boasts the Eskom Statistical Yearbook (1995), it was the largest utility in the British Empire. Christie (1984: 1) offers three reasons for South



Africa having not only the largest but also some of the cheapest steam-generated electricity in the world: the thick shallow unfaulted coal seams, cheap black labour controlled by pass-laws, compounds and reserves, and the fact that the electricity supply industry is structured to provide cheap power for mining, manufacture and transport. In addition electricity was used for the mechanisation of mining (gold and coal) to replace black (and later white) labour where cost effective (Christie 1984: 21).

The literature does not reveal much about women and the energy sector during the early 1900s. Christie (1984: 8) uses extensive documentary evidence to show how the electricity industry was structured to the advantage of property owners, who are predominantly white, and to show the deliberate ways in which black people, but in particular black men, who worked on the mines and in the Electricity Supply Industry, were coerced into accepting menial living conditions, kept subservient and controlled. However there is little about women and the relations between men and women in the power sector. Each time black men tried to mobilise to protest their wages and conditions, the end result was that more jobs were lost and low wages were maintained through electrical mechanisation (Christie 1984: 21). This unequal power struggle between men was likely to have affected women's economic status too.

Some information about women and their socio-economic status is known through the statistics of the census of 1903 in Johannesburg. This counted 1,131 women and 1,280 children out of 5,125 people living in the African 'locations' (Callinicos 1987: 41). Writers such as Callinicos (1981, 1987) attempted to humanise the women in these statistics by giving them histories and voices in a form suitable for the lay reader.<sup>37</sup> At the turn of the century there were not sufficient women to wash and cook and clean for the miners, and black men took their places as domestic servants or in businesses such as the Amawasha laundry service (Callinicos 1987: 55). The Amawasha were a group of predominantly Zulu-speaking men who had learned their trade from and copied the

---

<sup>37</sup> The seminal text in this regard is Charles van Onselen's essays on the early social history of working class life in South Africa, *Studies in the Social and Economic history of the Witwatersrand 1886-1914*, Volumes I and II. Callinicos draws on this scholarly work, as well as numerous narratives and interviews and papers presented to the History Workshop of the University of the Witwatersrand, and which are used to locate real people in the conditions of the time.

dress of the Indian 'dhobis' who earned their living doing washing in the Umgeni river in Durban. By 1896 there were over a thousand Amawasha, only about 10% of whom were women, living in settlements at four different waterside sites some 5-12 kilometres from the mining town (Callinicos 1987: 55). This was a commercial enterprise rather than a reversal of gender roles, and a new, modern, capital and energy intensive steam laundry established in 1895, began to overtake the manual business. Forced relocations and the imposition of licences and transport fees made it impossible for the river-side businesses to survive (Callinicos 1987: 56) so that once again black people were at the wrong end of capital investment and technological progress. By 1914 there were only about 93 Amawasha left (Callinicos 1987: 56). Many of those who did not go home joined the ranks of the 8,375 black and white domestic servants in Johannesburg at the turn of the century. Here too, there was discrimination and a hierarchy of race and gender was enforced. By 1920 there were some 150,000 black women living on the Rand with their men and children (Callinicos 1987: 46). The presence of women and children changed the patterns of life in town, because it meant that there was a substantial black population who were non-migratory and thought of themselves as townspeople requiring the basic facilities of town life. The conditions of these women and their energy needs and usage are briefly enumerated.

Reef townships such as Sophiatown, Martindale and Newclare were freehold areas where families lived and paid rates. Very few services were supplied because the municipality claimed that the rates received were too low to supply adequate water and electricity services (Callinicos 1987: 180). There were a substantial number of poor white people too, many of whom lived in poor, predominantly black areas. Callinicos (1987: 234-253) provides narratives of poor black and poor white women who faced similar circumstances of unemployment and poverty and some friendships across race groups. Ultimately the poor white women had more choices open to them, and the state acted to assist them. Race cut across class lines, and while neither group was homogenous, race determined access to, or exclusion from, most aspects of socio-economic and political life. The wave of strikes from 1914 onwards, protesting wages and conditions of power-workers, were put down forcibly by Botha and Smuts. The outcomes significantly altered the power-supply industry – and not to the advantage of the strikers. By suppressing the strikes and the revolt of 1922, Smuts made it possible for the goldmine owners to complete a mechanisation process begun earlier (Christie 1984: 55-58). In addition social relations shifted as Afrikaans speakers replaced English

workers and 45,000 black workers lost their jobs (Christie 1984: 67). Both white and black workers suffered as a consequence, and the hardships for women and children are documented in Callinicos (1981, 1987).

The development of coal, gold and electricity production continued to be closely linked. In April 1919 the Johannesburg municipal power-station and tramway strike coincided with a resistance campaign against pass laws launched by the Transvaal Native Congress and led by R W Msimang (Christie 1984: 60). The waves of strikes by miners and municipal workers in the first quarter of the twentieth century were organised by black and white men rather than women, but women began to be involved in trade union activities, especially in those associated with 'women's work' such as the garment workers' union. An Irish immigrant, Mary Fitzgerald, also known as Pickhandle Mary,<sup>38</sup> was very active in labour and public organisations and in the early 1920s was the first woman on the Johannesburg Town Council and Deputy Mayor (Callinicos 1987: 99), but there is no record of her or any other woman's involvement in the nascent electricity supply industry.

By 1923 it was decided that there should be a national power system that could meet the demands of the entire country (Christie 1984: 39). The interests of the state were fundamentally linked to monopoly capital, and to gold mining capital in particular. Gold mining needed power stations, but the formation of a state institution with the monopoly to supply electricity to the gold mines threatened the interests of a number of important groups in the Transvaal. The state therefore conducted an 'exercise of accommodation', whereby the new, and highly necessary, electricity monopoly was fitted into the existing relations of production in such a way as to ensure the minimum of unnecessary disruption of vested capitalist interests (Christie 1984: 39). This led to the Electricity Act of 1922 and the establishment of the Electricity Supply Commission (Escom) in 1923. The Commission's first chairman was Dr JH van der Bijl, a scientist of international repute (Eskom 1995). It was, of course inconceivable that the Chairman could be anything other than a white male. From the start Escom was designed to conduct itself independently from the government and parliament, a state of affairs which continued until after 1994. According to its own much-used phrase, Escom is run

---

<sup>38</sup> See Lou Haysom's forthcoming Master's thesis on Pickhandle Mary.



on 'business lines', 'which in effect has meant that while it follows the government on matters of national policy, it has not been subjected to the same parliamentary scrutiny as other parastatals' (Christie 1984: 86). Christie also claimed that the VFTPC had been 'extraordinarily profitable after 1932' and had found ways of 'hiding' the profits in the balance sheet so that 'wages could be kept low and tariffs could be kept up' (Christie 1984: 106). This was to the disadvantage of poor men and women, and contributed to the growing gap between blacks and whites.

Electrification of white areas continued. In 1925 in the Western Cape Escom undertook a major rural electrification programme supplying villages and wine farms as far north as Paarl, Wellington, and Malmesbury (Christie 1984: 92). White women on the farms benefited in much the same way as urban women had previously, being relieved of some of the arduousness of domestic tasks. In a footnote, Christie (1984: 117: 45) records that in the Cape 'the general electrification of homes in the peninsula ... made possible a much wider participation by women in the war effort than would otherwise have been the case', presumably because it freed up women to enter paid work. Between 1933 and 1939 the South African economy prospered as it industrialised and the boom greatly increased the demand for electricity in mines, white homes, railways and factories. In order to meet this demand new power stations of 'unprecedented size' were built (Christie 1984: 115). Progress in mechanisation was not altogether smooth, and here, as in other areas of development, the processes were determined as much by politics as by technology. Part of the challenge to industry was to use increasing numbers of black workers while protecting the interest of whites. This was done through job reservation and other apartheid legislation (Christie 1984: 124; Callinicos 1981).

Between 1933 and 1948 Escom increased its generation of electricity as consumption grew by five-fold, most of the demand coming from the gold mines. In 1948 Escom sold over 5576 million units, or 68% of all the electricity sold in South Africa, with the remainder generated in the larger municipal power stations most of which have gradually closed or been incorporated into Escom (Christie 1984: 104). Municipalities bought in bulk from Escom and were allowed to set their own prices for distribution. As a result many municipalities still derive substantial profits from electricity supply which they use to reduce municipal rates and supply other services. Christie (1984: 124) records that the mark up 'ranged from 80% in Boksburg to 5% in Uitenhage', and in 1994 there were over 400 different tariffs charged by various distributing bodies.

Unequal pricing remains a contentious issue. It was one of the problems the National Electricity Regulator was tasked with solving when it was established in 1997, but to date only a proposal has been developed (Langa 2001).

Electricity was not supplied to power sector workers and the conditions of black mine workers and their dependants did not change much for fifty years (Christie 1984: 135). Orlando power station was built between 1939-1943 but it was not used to electrify the township adjacent to it, but only to feed the grid.<sup>39</sup> Townships and shack settlements have frequently been established around or adjacent to power lines without the benefit of electrification. This has been a sore point with residents for many years (Anneck 1991). In 1944 the African Gas and Power Workers' Union (AGPWU) called strikes at five major centres of the power system to repeat demands made in 1914, 1935, and 1937 for beds with mattresses instead of concrete slabs, free issue of work clothes, ablution facilities, better food, an end to sodomy and violence, and higher wages. 'The company had made a profit of £1 250 000 the previous year, yet workers were expected to live on 12s per week' wrote Christie (1984: 139). In contrast white supervisors were housed in estates with many facilities, deepening the schisms and resentment between black and white South Africans. The symbolic significance of the power supply industry as well as its material substructure has meant it has been the target of sabotage and strikes by the right and the left. Between 1939 and 1945 the VFTPC was attacked several times. For two nights running in January 1942, the Ossewa Brandwag<sup>40</sup>, sabotaged the Witwatersrand power network in attacks that Christie (1984: 135) claims were far more systematic than the attacks from the left in the 1960s. On both occasions the electricity system was rapidly repaired, it was, after all, designed to withstand lightning (Christie 1984: 135).

In 1948 the Nationalist government took over an industrialised, electrified state whose fundamental structures had been designed by Smuts and van der Bijl. In the largest transaction in the country to date Escom bought out the VFTPC for £14 500 000

---

<sup>39</sup> In 1930 the Johannesburg Council began to build houses on the old Klipspruit farm, and established a black township which was named Orlando township.

<sup>40</sup> A pro-Nazi group of far-right Afrikaner nationalists, disaffected from the 'progressive politics' of Smuts and his support for Britain.

(Christie 1984: 129). South Africa was not, at this stage penalised internationally for its racially discriminatory policies and legislation. In 1951, in accordance with development thinking of the time (see Chapter 2), the International Bank for Reconstruction and Development (the World Bank) delivered the first foreign loan to Escom and regular loans were granted until 1975 enabling the number of power stations and generating capacity to be increased (Christie 1984: 156).

In the 1950s semi-skilled black labourers in manufacturing enterprises began to be accommodated in houses in townships rather than compounds. In this way the state acknowledged some sort of family life including women and children for black people, but they were never allowed to become too comfortable. For example, a growing coal shortage reached crisis point in 1951, whereby coal delivery to railways, power stations and gold mines was prioritised rather than people who used coal for cooking (Christie 1984: 153). Rationing affected all coal-using sectors of society, but black workers and their households who were least equipped and able to cope with the coal shortages suffered disproportionately (Christie 1984: 153). The many women who cooked with coal were most affected.

Christie (1984: 153-161) argues that the new townships which arose out of the slums of the early 1950s, presented a contradiction. The townships were potentially the biggest markets of all South Africa. The higher the standard of living, the more goods would be bought to the benefit of South African manufactures. Yet a high standard of living would require high wages, inimical not only to manufacturers but to agricultural and mining interests, whose wage-rates were very low. The gap between townships on the one hand and compounds and farms on the other could not be allowed to become too great because, despite the pass laws which divided compound and farm labour from the rest, workers could not be completely stopped from moving to urban areas. It was argued that the provision of electricity to black workers would only become economic if the 'native salary structure' improved, and this was a dubious benefit to whites. As a result between 1960 and 1975 the political choice was made that only some houses should be electrified in black urban areas. This meant that by the time the political tide had turned in the 1990s, there was a backlog of over five million black households, urban and rural, without electricity, and the significance of the electrification as a symbol of shared citizenship and modernisation had intensified.

From 1948 to 1975 as industrialisation progressed, so the use of electric machinery was extended, and the demand and supply of electricity for industries, the railways and domestic use grew. The cleavages in the society expanded too: as the number of poor whites decreased, so the number of poor black people increased, with men and women in the labour reserves sharing similar fates and suffering from malnutrition, a lack of basic services and education. The power sector had made its contribution to sowing seeds of discontent and rebellion and continued to do so for the next fifteen years until 1990. Women did not directly participate in either industry or the accumulation of capital. They were neither decision-makers nor workers on the mines or power stations. Nonetheless white women benefited materially from white male dominance and enjoyed the benefits of electricity. Black women shared the conditions of black men. These were the issues still high on the transformation agenda in the 1990s.

### **Women and electric appliances**

There was a branch of the electricity supply industry which, from the early 1920s onwards, was particularly interested in and of interest to women, and that was domestic appliances. Although the design and manufacture of appliances has been male dominated, the users have been women. In 1923 Siemens (South Africa) (Pty) Ltd was one of the first companies to open its doors by selling imported goods. After the war Siemens began manufacturing domestic appliances in South Africa. In 1929 Fuchs started manufacturing shades for streetlights but soon diversified into hot water heaters (geysers) which proved popular (Christie 1984: 116). With the growth of Escom, increasing numbers of people were encouraged to use electricity in their homes. In 1936 Escom introduced a publication, *Escom*, the first of numerous brochures and pamphlets which have been issued over the years, and which usually serve the dual functions of marketing and education. The specific purpose of the first *Escom* was to advertise 'the immeasurable benefits to be derived from the extensive use of electricity', and to publish 'instructive articles relative to the efficient economical and labour-saving aspects of electricity in the home' (Christie 1984: 116 note 42). *Escom* suggested that it was possible to maintain a 'given standard of living' in an electrically-equipped home with a much smaller staff than previously required to do the work manually. This meant substantial savings not only in terms of wages but also in terms of servant maintenance and accommodation (Christie 1984: 117 note 43). Furthermore it proposed that the savings achieved by using 'low-wage motor-operated home-servants' could be spent on

luxury goods. Domestic labour in South Africa in the 1930s was cheap and electrical appliances were an addition to, rather than a substitute for, domestic workers (Christie 1984: 117). However over the years electric machinery in the home has had the same effect as in the mines and power stations, that of reducing paid labour. White women may not have been boil their own tea on coal stove, may have found that the advent of electric kettles made the task less arduous. In 1939 there were 29 firms producing electrical goods in SA, and after the war this number increased. Philips SA began manufacturing light bulbs in 1947, while Mr Fuchs, who mass produced supplies for the war, turned thereafter to the production of water heaters and kitchenware and continued growing until the company was absorbed into Barlow-Rand in 1980 (Callinicos 1987: 138; Rustonjee & Fine 1996). By 1958 the Benoni plant of the English Electric Company of South Africa was producing masses of domestic appliances destined for use by women in their homes. Men dominated both design and manufacturing. During and after World War II white women began to enter the workforce in greater numbers in factories and administrative positions (Callinicos 1987: 150).

That domestic work is done predominantly by women rather than men, and without remuneration, has been the subject of many feminist treatises (Boserup 1970; Tinker 1982; Waring 1999). Christie maintains that in workers' homes domestic work is part of the reproduction of the supervisory and ruling classes (Christie 1984: 116). If there were black women who understood their lives in this way – as an endless grind to provide labour for whites as the ruling classes – then their resentment is likely to have been significant. Christie also maintains that domestic labour-saving devices are qualitatively different from labour saving machinery in commodity production, in that they may improve the quality of life, ease tedious tasks, even ensure that the reproduction of the labour force is less expensive or replace domestic workers altogether (Christie 1984: 116). It was, of course, not true that 'electricity is everyone's servant' as *Escom* claimed (Christie 1984: 117 note 48). Black women who were domestic servants may have used a range of electrical appliances in their employers' houses (as they still do) but they would go back to un-electrified quarters or townships at night, using candles and lamps for light, and coal, wood or paraffin for heating. Wood and dung were, and continue to be standard in rural areas. Black workers were constrained in their choice of fuel by their meagre purchasing power. A bottle of paraffin cost sixpence and that was what they could afford. Christie (1984: 117) commented on conditions that still pertain today: 'Coal was eight times cheaper per thermal unit than paraffin but could not be purchased

nor burnt in small quantities' and the initial costs of electrification, the connection and the appliances, put electricity well beyond the reach of most workers (Christie 1984: 117). In most poor homes domestic work continues to be done by women's hands using women's physical energy.

However between 1933 and 1952 domestic work in the homes of whites in South Africa was transformed so that by 1952 the Board of Trade and Industry could report that 'hardly any domestic task remains for which an electrical aid does not exist' (Christie 1984: 116). Early on electric lights had become most commonly used. They were followed by irons, kettles, stoves, water-heaters, refrigerators and washing machines. Domestic routines significantly altered the Johannesburg municipal power system's load curve: washing was done on Mondays and ironed on Tuesday. The use of some 10,000 electric irons resulted in load curve 6000 kW greater than other weekdays which had to be accommodated by the system. Washing, it would appear was still done by hand – and probably by servants. The use of electric heaters in the evenings and stoves for Sunday lunches also created peak loads (Christie 1984: 116). Thus domestic routines and 'women's work' became visible in the system and important to manufactures, even though it constituted a relatively small proportion of the total energy use. In 1990 household energy consumption accounted for about 19% of net energy consumption (Trollip 1996: 2-2). Clearly whites provided a more limited market than would have been the case had all houses been electrified.

With regard to other appliances, Christie (1984: 160 note 69) records that by the mid-1970s South Africa was producing 250,000 small scale battery-radios, together with 100,000 larger battery radios, 100,000 cookers, 130,000 refrigerators and 100,000 water-heaters each year. Christie argued that:

The increasing militarisation of the new Republic after 1961 meant that electrical-goods suppliers could make up in defence, police, security and communications products what they lost in civilian durables due to a lack of electrification. (Christie 1984: 160)

The sale of electric goods for national security purposes continued into the 1990s<sup>41</sup>, the point being that social uses of electricity (and women's uses) were neglected in favour of military priorities. From the time of the state of emergency declared on 31 March 1960 and the scholars' revolt of 1976, mechanisation and the control of workers assumed growing importance especially 'as the wars of liberation moved closer' (Secret Mine Report, *Financial Mail* 7 July 1978: 30 quoted in Christie 1984: 163). This conservative perspective of the mining and energy sector supported the apartheid state and assisted in constraining the freedom of movement of women and families as well as men.

In the 1970s the world was preoccupied by the oil crisis which had mixed effects on South Africa. The prices of oil, coal and gold soared. During a wave of strikes from 1972 to 1976 workers, including Escom workers in 1972, demanded and received wage increases (Maré et al 1974: 6, 32, 45). Escom also began improving living and working conditions of its employees, at the same time paying greater attention to productivity and reducing the number of workers (Christie 1984: 181). In 1975 Escom reported its technical and financial considerations for rural electrification:

The main reasons for continuing impetus towards rural electrification are the high price of petroleum fuels, the increasing shortage and cost of farm labour, and a recognition of the fact that under inflationary conditions it is advisable to electrify at the earliest opportunity. (Escom 1975: 11-14)

By 1977 some 38,000 white farms, some in remote areas, were supplied by Escom (Christie 1984: 184). There was surplus generation capacity, but rather than electrify black households Escom mothballed 3,541MW of generating capacity at Camden, Grootvlei and Komati power stations in the mid-1970s (Ruffini 1999: 39). Townships continued un- or partially electrified, while black women remained critical to easing the domestic lives of many whites (Cock 1980).

---

<sup>41</sup> Whether the consumption patterns of electrical appliances for national security would really have rivalled total household consumption is speculative since it will take at least another decade to electrify all households and assess and average household consumption rate for the ten years.



The 1980s saw the site of the liberation struggle shift from the national to the local level where emerging civic organisations formed street committees and residents associations to act against the already discredited local authorities (Taylor 1997). Access to clean water and electricity became demands on the agenda of activists. The Electricity Petition Committee in Mitchell's Plain in Cape Town organised against the deadline by which electricity accounts had to be paid and the issue evolved into a much bigger campaign out of which the Cape Areas Housing Action Committee (CAHAC) grew and spread to other areas (Taylor 1997: 97). The Candlelight Campaigns in Cape Town and Durban were also organised around issues such as rental and electricity price increases (Taylor 1997: 179). While men frequently led these movements, women played their parts too, particularly in the Western Cape (Fester 1997). Electricity became highly politicised. 'Electricity for all' rapidly became a rallying cry and then a slogan which Eskom and the ANC co-opted in the early 1990s (ANC 1994: 33). Far from being a 'spirit of progress', an apolitical service provided equally for the general good of all the people living in the region, it was clear that electricity was '*used by the state and by owners of property to serve their particular interests*' Christie (1984: 2 emphasis in the original). Issues, such as boycotts, wage disputes and layoffs, which are plaguing the industry at the end of the 1990s have their roots in the conditions and strategies decided upon at the turn of the century and enacted over the intervening years. The fact that the black townships were deliberately not electrified, that the electrified railway routes deliberately bypassed townships, and that only white rural dwellers, not farmworkers, received electricity connections, contributed to the generalised resentment and ambivalence towards Eskom. While electricity was a highly desirable commodity, the notion of white supremacy was embedded in the utility and made it a target of dissatisfaction. A consequence was that Eskom workers for the national accelerated electrification programme in the 1990s could not predict whether they would be welcomed or shot at when they were extending the grid in rural areas (Annecke 1997).

### **In summary**

The structure of the society meant that women are all but invisible in the history and commercial development of the energy sector. However the chapter confirms the critical role of women as consumers of household energy, and their responsibility for ensuring that lighting, space heating, cooked food and hot water were available according to the means and availability of each household. Before the turn of the century woodfuel,

candles and lamps were required by all, but as the chapter indicates, women are not a homogenous group, and although the requisition and management of candles and woodfuel was women's task, not all women experienced this task equally. In South Africa middle class white women were largely protected from collecting and carrying firewood by servants and slaves who supplied the hard labour. Poor proletarianised white women wherever they were – in rural areas, on mining digs or in townships - who had, perforce, to perform these tasks, represented a relatively short historical phenomenon. The household energy needs of white women were largely accommodated by their inclusion in the lucrative consumer capitalism of the prosperous post-1933 years.

The chapter highlights the contribution of the commercial development of the energy sector to race and gender biases which developed and increased in South Africa in the 20<sup>th</sup> century. At the turn of the century prospecting and mining were occupations largely closed to women and the history of the energy sector rapidly came to be dominated by men: men as pioneers, decision makers, financiers, negotiators, managers, supervisors and workers, resisters, protesters and strikers. Access to energy was not equitably distributed among all people, and the patterns of ownership and accumulation which evolved in the early years of industrialisation set in place those conditions that ensured that whites, urban and rural, rich and poor, English and Afrikaans, men and women, were better cared for in all aspects of life, socio-economic and political, than blacks, whatever the latter's affiliation, education or social status. Energy, in particular the electricity industry, was an integral part of industrialisation and the setting of these patterns of racial discrimination, from the mining of coal to the conditions at generation plants, the design of transmission networks and distribution the electricity, the industry colluded and collaborated with business interests and the state to supply electricity to a select few. Middle class white women had access to electric lighting for a hundred years before their servants, and, after World War II, provided a ready market for the manufacturers of domestic electrical appliances which relieved some of the drudgery of housekeeping. For domestic servants doing a double shift in their employers home as well as their own, the contrast has been particularly stark.

Racial allegiance between men and women cut across class interests and dominated the lives of South Africans for several centuries. Racial discrimination became progressively entrenched from 1948 when the Pact government came to power onwards.

However the seeds of resentment and anger towards the electricity industry, symbolised by Escom, had been sown earlier; from the time the first lights were turned on in the central (white) district of Kimberley in 1882. Black people saw primarily the downside of electricity for surveillance and mechanisation. The resultant anger towards whites and ambivalence towards the electricity utility is still evident in South Africa today. Ruiters' race and gender audit of the energy sector showed that:

- managerial positions were almost exclusively occupied by white men;
- white men were still predominant in supervisory/skilled positions, although more white women and black men were represented at this level than in management.
- black women were under-represented in the sector generally; and
- in the oil companies women were generally employed in supervisory/skilled and semi-skilled positions. In the nuclear industry and the Energy Directorate women were mainly employed in semi-skilled positions (Ruiters 1995: 24).

Ruiters' (1995: iv) comment was that 'The representation of women and black people in the sector is dismal'.

Although many women remained largely in the domestic sphere, there were strong articulate women, black and white, who became public figures engaged in the social struggles of the time (improved wages, the war effort, the vote for white women, resisting the Pass Laws, boycotting electricity payments and calling for universal electrification). These had little impact on the energy sector or its politics. Up until 1990 women featured only slightly in the energy economy. However the situation began to change as progressive men and women turned to researching household energy use by the poor in the 1980s. They began to draw attention to domestic energy consumption patterns although women as users remained largely anonymous and homogenous.

In the following chapters the focus shifts to women, predominantly white, who, at the end of the 1980s began to enter the South African energy sector as researchers. The first three women-centred energy studies in South Africa were written by self-defined feminists. Other women researchers have not necessarily been feminists but have continued to show an interest in women as individual agents and consumers. In the 1990s and in the new millennium it remains women's work to explain women's part in the energy sector.

## CHAPTER 4

### Progressive research, energy research and feminist research to the early 1990s

One of the questions asked in the Introduction was ‘Why women and energy?’ This chapter goes some way towards answering that question by exploring the politics of energy research. It focuses on the people and organisations engaged in energy research in South Africa in the 1970s and 1980s. It looks first at the emergence of politically progressive research and the manner in which this was disseminated through alternative media and conferences, then at particular mainstream energy research represented by the National Energy Council (NEC) and the processes through which this state Council came to fund alternative, politically progressive<sup>42</sup> research represented by the Energy and Development Research Centre (EDRC) and the South African Energy Policy Research and Training Project (EPRET). Finally it explores the status of feminist research in South Africa in the early 1990s. This is done with a view to assessing the women’s energy research in terms of feminist research criteria in the following chapter.

This chapter explores whether politically progressive research, concerned with energy for the majority of poor black South Africans, met the needs of men and women equally well. It draws three conclusions: that progressive energy researchers had uneven, but rather slight success in encouraging poor rural men and women to participate in projects to address their energy needs, that progressive energy researchers made some contribution to addressing women’s every day *practical* energy needs, and that they made a negligible contribution to addressing the *strategic* needs of women. However, politically progressive energy research in the 1970s and 1980s contributed to shifting

---

<sup>42</sup> ‘Politically progressive’ and ‘alternative’ are used here to describe research which sympathised with the primary goal of the liberation movement: universal suffrage for South Africans/ deliberately treated black South Africans as entitled to an equal share resources/ challenged mainstream research which ignored black South Africans with alternative perspectives and possibilities. For example the EDRC deliberately set out to research and fulfil the energy needs of black people.

the energy research environment, so that attention began to be paid to poor people's household energy use. Different methodologies, which included household surveys and the notion of participation, were attempted. Such shifts contributed to the conditions in the 1990s which allowed women, who called themselves feminists, to begin to emerge as researchers interested specifically in women and gender issues in the energy sector.

Research is a political activity although it is often disguised as objective and value-neutral (Harding 1991). Who has the education and expertise to do research, who has access to the necessary facilities, and perhaps most importantly, who funds whom to do research and for what purposes, are sensitive and contested issues. Resources for research provide reliable indicators of social and political values and the chapter highlights the apartheid state's priorities in the allocation of funding for mainstream energy research. These were characterised by vast sums of money for electricity, petroleum and nuclear research for the macro-economy, and in comparison, a minuscule allocation for alternatives such as renewables for use by black South Africans.

The chapter proceeds with a description of the values of research as proposed by the anti-apartheid movement and conducted to promote the interests of the masses, and the manner in which the alternative media and conferences were used to popularise research. Thereafter the emergence of a group of individuals concerned with alternative energy research is described. The chapter also highlights the role of women working alongside progressive men and doing alternative research on renewable forms of energy. The mere presence of women does not mean that their studies will be different from those done by men or gender sensitive in any way. This point is amply demonstrated below. Mainstream energy research was represented by the National Energy Council (NEC) which co-ordinated and funded most of the energy research done in the 1980s. Much of the research conducted was considered strategically sensitive and much research information was highly secret. This was in sharp contrast to progressive alternatives which was intended to be conducted openly and transparently and cater for the energy needs of the majority of the population (EDRC 1992). However a convergence of interests was realised in the study of renewables for use by poor people in rural areas and the NEC funded the establishment of the Energy and Development Research Centre (EDRC) by a group of progressive men in 1989. Recognised as the premier progressive energy research institution in the early 1990s (Interview with Basson, 1997), the EDRC played a significant role in the development of new energy

policy for the first democratic government and its role is further analysed in Chapters 6 and 8.

Feminism was a 'dirty word' for many South African women in the early 1990s and there was no agreed feminist research methodology. The final section of the chapter highlights women's activism and resistance rather than a feminist movement. The primary concern about research was representation: who should do research and who should speak for whom. These and other issues of concern to feminists engaged in trying to do research that will change the conditions of other women, are explored. This is done with a view to evaluating the feminist perspectives in three theses in the following chapter.

### **Anti-apartheid research, values and information dissemination**

In the 1980s there were divisions in the research community between research which was seen to support apartheid ideology and institutions, and research which was seen to oppose these. Christie (1984) and Fine and Rustomjee (1996) have shown how technology and new methods in the energy sector could be used to support wealth accumulation. However it was often social research that was seen to be more overtly political and was particularly under the spotlight because of the way in which the government used it, through state funded agencies such as the Human Sciences Research Council (HSRC), to prop up the principles of apartheid (Tapscott 1995: 185). Nonetheless there were many researchers with progressive ideals, who acknowledged that black people were excluded from mainstream planning and research and attempted to 'make a difference' (Marquard 1999). Although this was by no means a homogenous body of resistance, most would have identified at a minimum with the primary aim of the liberation movement which was to secure the vote for the disenfranchised. This 'research of the left' was not always well or easily funded. Although there were a variety of international foundations, donors and aid agencies who were anxious to support anti-apartheid efforts, there were some risks attached. All funding was not considered equally legitimate, who received funding from whom was often controversial, and there were many anomalies. There was distrust, even contempt, for researchers or organisations who accepted funding from those who were seen to be part of the problem.

It would be convenient to think that the national or parastatal research institutions [such as the Atomic Energy Corporation (AEC), the National Energy Council (NEC), the Medical Research Council, (MRC), the Council for Scientific and Industrial Research (CSIR) to name but a few] received state funding in order to support the dominant paradigms and perpetuate the hegemonic order,<sup>43</sup> and that oppositional researchers received none. But it was not quite as simple as that. Many of the conservative parastatals housed relatively progressive thinkers or co-financed research at liberal universities. And, as will be seen, the conservative, State-funded National Energy Council, funded not only the Energy and Development Research Centre (EDRC), a group of young white male engineers<sup>44</sup> who defined themselves in opposition to mainstream energy research, but also the first feminist energy studies (analysed in Chapter 5).

Funding may have been a cloudy issue but in contrast to the desperate secrecy of the apartheid state, the liberation movement was quite clear in its messages and used every opportunity and instrument possible to promote their research results, (shaped) to aid the cause. Albeit small in number, the intellectual left constituted a vibrant and vociferous presence producing research discourses which struggled to assert alternative epistemologies of knowledge and challenge the conservative ethos of apartheid. It thrived on volunteerism, commitment to ideals of liberation and an egalitarian society, and intense discussion. The values of the liberation movement, which included democracy, transparency, accountability, equality, inclusivity and empowerment, were reflected in the debates about research methodologies and content, contributing to expectations of what would be possible in a free and fair society. Many researchers endeavoured to do what they considered ethical research despite the constraints of the apartheid system. Nor was anti-apartheid research the sole domain of academics, or confined to any one discipline. Non-Government Organisations, trade unions, activists and grassroots intellectuals engaged in various kinds of research. The alternative press

---

<sup>43</sup> To use the word *hegemonic* is to remember its connotations according to Gramsci (1977), that in the maintenance of the hegemonic order, the state would use tactics of co-option and coercion.

<sup>44</sup> It may be interesting to speculate whether a group of young black engineers wanting 'to make a difference' would have received funding of the same order.



was an important avenue of communication and debate, as were pamphlets, posters, funerals (mass rallies were banned) and conferences. As part of a commitment to information sharing and equality, many interest groups had not one but two levels of publication to disseminate research and other messages, one intended for lay people or grassroots communities and one for experts (although 'expert' was a word which smacked of elitism and was generally avoided at the time).

Apart from the ANC literature which was published outside the county and circulated illegally, almost every interest group had a forum for publicity and discussion: literacy and education were represented in magazines and journals such as *Learn and Teach* and *Matlhasedi*, environmentalists published in *New Ground*, trade union interests were captured in numerous booklets put out by the Trade Union Research Project (TURP), the Labour Education and Research Centre (LERC) and for more substantive articles the *South African Labour Bulletin*. Women and gender issues were found in *Speak* and *Agenda*. *Work in Progress* (WIP), the *South African Review* and *Transformation* published a wide variety of research and reviews, and at least three newspapers, *New Nation*, *Vrye Weekblad*, and the *Weekly Mail* (now the *Mail & Guardian*) included investigative journalism, if not research, in their briefs. In the 1980s the energy sector was represented by the *Journal for Energy in Southern Africa* (JESA), a fairly conservative publication funded by the NEC and housed at the Energy Research Institute (ERI) at the University of Cape Town: it was another example of blurred politics. JESA published articles of a technical nature, but it also published the articles of the women referred to above, and exposed their work to the technical research community. Together this variety of publications provides valuable insight into, and documentation of, the debates of the 1980s and early 1990s and the emergence of women as editors, writers and subjects of research in many of the sectors.

While the media were important for information dissemination, under the repressive conditions of the 1980s conferences were highly politicised events and important too. They provided forums for the exchange of information and networking, but also platforms for challenging the apartheid state and presented opportunities to expound radical (and with hindsight, often unrealistic) alternatives. On the one hand, conferences fostered a sense of group identity and participation in the struggle, on the other they constituted locations of dissidence amongst members of the left. Each conference, through its location, subject theme and participants, sparked its own set of debates. Buzz

words of the time included democracy, transformation, equality/equity, empowerment, relevance, participation, non-racist, non-sexist, environment, access and transparent. Frequently these were strung together although there was little agreement what these words might mean, and inferences changed over time and according to who was constructing the phrases. Ostensibly, definitions and connotations were considered important and regularly debated but not necessarily agreed on. This permitted 'struggle' people to talk to each other enthusiastically without having to be pinned down or reach too rigorous agreement.

The significance of this discussion to the topic at hand is that the rhetoric was generally known and agreed upon but the means to give substance to concepts such as equality, participation, non-racist and non-sexist, had still to be determined, and became part of the energy debates later on. An example of a conference that reflected the range of the issues being raised and grappled with by progressive researchers was the 'Research Utilization Seminar: How Research and Information Are Used', held in January 1988 at the University of the Witwatersrand in Johannesburg. It is used as a basis for comparison because it is representative of several of the features typical of the time: multi-disciplinarity, research done by NGOs, concern for method, content and purpose.<sup>45</sup> It is described in order to provide some context for the issues raised in other conferences discussed later, in particular the 'Renewable Energy Potential in Southern Africa' and the 'Women and Gender in Southern Africa Conference'.

One of the contentious points among the left was inclusivity, whose voices were heard, who was invited and who delivered papers. Attendance at the 'Research Utilization Seminar' was by invitation only. This smacked of exclusivity and one of the first tasks of the conference organisers was to explain this.<sup>46</sup> About a third of the participants were

---

<sup>45</sup> Three case studies, demonstrating the multi-disciplinary component referred to, were presented for discussion at the seminar: Anne Bernstein from the Urbanisation Unit of the Urban Foundation, Steven Gelb for the Labour and Economic Research Centre (LERC) and Drs Deliza Mji and Rob Dyer from the National Medical and Dental Association (NAMDA).

<sup>46</sup> The occasion was prompted by a visit of Harvard Professor Carol Weiss, well known for her work on the 'knowledge creep' (Weiss 1980: 381), and was organised by Jane Hofmeyer and Johan Muller.

women, and about a third black.<sup>47</sup> Commitment to the anti-apartheid struggle knew no disciplinary boundaries. The participants included social scientists, medical doctors, engineers and natural scientists, architects, economists, geographers and representatives of the NGO housing sector. A concern for democracy and equality is evident in the attempts to create and maintain 'flat hierarchies' among the participants, the value attached to collaborative as opposed to individual work, and the recognition of the equality granted to speakers without neglecting gender difference (Hofmeyer & Muller 1988). The concern with democracy and equality did not mean there were no rules or no hierarchy, and towards the beginning this acknowledgement was made:

As far as the academic boycott is concerned, we may say that Carol's visit was canvassed beforehand and occurs with the knowledge of the National Education Crisis Committee. (Muller, Introduction to Muller & Hofmeyer 1988: 15)

Everyone understood where power was vested and although relations were complex, it was understood where in the hierarchy permission had to be sought and gained before the conference could proceed with legitimacy. There was a great deal of angst about the nature of research brought to the seminar, real anxiety and soul searching about 'reform', 'relevance', the purpose of the seminar, and the emergence of extra-state actors such as trade unions and extra-parliamentary groups, who were demonstrating considerable political clout. The organisers had faith in the contribution of the research process: 'research agencies such as ourselves feel that our research can intervene in some way in the movement for change' (Hofmeyer & Muller 1988: 16).

This belief in the ability of research to contribute to change resonates with the initiators of EDRC below, the project of feminists, and women energy researchers in Chapters 5 and 6, who believed they could 'make a difference'. Some of the questions asked at the conference were about what constituted 'useful research', and how this should be done

---

<sup>47</sup> On the list of some fifty participants, white males from English speaking universities predominated. Blade Nzimande, formerly an ANC MP, and currently Secretary-General of the South African Communist Party, was one of the black social researchers present, along with Safoora Sadek from the Detainees Parents' Support Committee and Dr N Jinabhai from the University of Natal. The women included Francie Lund of the University of Natal, Anne Bernstein and the late Dr Marion Lacey of Rhodes University.

so that it would contribute towards better policy formulation, while giving voice to popular needs and perspectives. Methodology too came under the spotlight. Muller (in Hofmeyer & Muller 1988: 21) issued an important warning that 'the espousal of a particular set of values will not automatically guarantee a certain research result', a point which is picked up in later chapters. The seminar participants identified the important issues in research utilisation as:

- Who initiates research?
- Who is the research targeted at?
- What form of consultation has helped to shape the research?
- What kind of methodology is used?
- Does the research embody a clear dissemination strategy?
- Does the research aim to bring about a specific policy change? (Hofmeyer & Muller 1988: 5)

Many of these issues are echoed by feminists later in the chapter. The nature of an appropriate relationship between policy research agencies, their commissioning clients or stakeholders, and the public at large, was discussed at length (Hofmeyer & Muller 1988: 16). The issue was not resolved. It proved to be a critical question after 1994 when all the sectors had to engage the public in the development of new policies. Some of the Department of Minerals and Energy Affairs' attempts in this regard are analysed in Chapter 8.

Methodology and inclusivity were the concerns of the day. There was some creative thinking around how research could be defined and controlled by poor communities so that they would be 'empowered' but the meaning of empowered was not defined. Common currency among NGOs was the idea of issuing 'research vouchers' to communities who could then decide what research they wanted done, by whom and how. The underlying principle was to facilitate the redistribution of power and resources and to acknowledge experience and indigenous knowledge. Practicalities such as who would fund such redistributive initiatives or how communities would know what choices they had, and what research to request, were not addressed. On the whole the more powerful groups with access to funding, whether they had philanthropic leanings or not, decided, as they do now, what research would be done and how.

An early and meaningful conference for progressive energy researchers was the 'Second Carnegie Inquiry into Poverty and Development', a study based at the University of Cape Town which contributed significantly to the quantitative and qualitative description of poverty in South Africa, and the conditions under which most black South Africans lived. The SALDRU inquiry, headed by Francis Wilson and Mamphela Ramphele, begun with a feasibility and process study in 1980. After two years of active research (1982-1984) a conference<sup>48</sup> was held at the University of Cape Town in 1984. It was attended by 450 people and 300 papers were delivered (Wilson & Ramphele 1998: x). The conference itself was a significant event and post-conference work continued, extended and clarified research issues raised at the conference.

The Inquiry included a section on energy poverty to which two men, whose names occur repeatedly in the alternative energy sector, contributed. They were Mark Gandar and Anton Eberhard. For Eberhard the conference was a turning point; he was deeply affected by the politics of the occasion, by debates and questions around the value of household surveys, and qualitative and quantitative research methodologies which emerged during the conference (Personal communication Eberhard, 2000). Gandar had been working in the field for nearly ten years. He had given up a promising career path and mathematical studies at Oxford University in the 1970s, joining the Environment Development Association (EDA) and working on environmental issues instead. He had begun to be increasingly interested in poor people's energy needs, and in assessing the contribution of wood to cooking, heating and lighting in rural areas (Personal communication Gandar, 1997). Most wood surveys in South Africa had been conducted by men with a technicist approach to quantifying wood stocks, measuring these against guesstimated wood consumption in an attempt to assess the sustainability (or otherwise) of current practices, and recommending solutions to dwindling resources.

Despite the fact that women are the primary users of wood for fuel, women were largely invisible and anonymous in wood fuel studies of the 1970s (Aron et al 1989: 4). Gandar

---

<sup>48</sup> 'Those who came had thought deeply about poverty....In addition to the papers there was a photographic exhibition; an art display; music and drama; and a documentary films made in South Africa. There was also a festival ('Signs of Hope') – drawn from around the world – of films showing development projects that have been successful...' (Wilson & Ramphele 1989: xi); demonstrations of alternatives and examples of how South Africa could function.

however, was as concerned with the impact on users as he was with dwindling tree stocks, and did some of the pioneering work in South Africa on women's wood-collecting loads. For the SALDRU study, Gandar reported one extreme case of a woman who had to walk 19km and spend 9,5 hours collecting each load, and made the comment that 'If wood gathering is counted as part of food preparation, more effort is put into the preparation of food than the growing of it' (Wilson & Ramphela 1989: 44). Gandar's approach fitted within that of the women and development (WID) framework in that his attempts at solving the problem were aimed at alleviating women's burdens, and facilitating an improvement in their ability to fulfil their domestic roles. He did not see women as a particular category of oppressed people or grasp the full implications of the gendered division of labour around collecting wood and cooking. His paper for the Carnegie Inquiry (SALDRU working paper 156) is entitled 'The Poor Man's Energy Crisis: Domestic Energy in KwaZulu' (Gandar 1984). An interesting reflection on the (gendered) world view of an undoubtedly progressive person.

It was not only men who were unaware of women as a specific category of consumers. Janine Aron, a woman working with Eberhard and Gandar on the quantitative demand and supply of firewood in the homelands of South Africa in 1989, refers to the 'energy needs of the poor' and makes no specific mention of women (Aron et al 1989: 4). Aron et al took care to point out that South Africa was not alone in neglecting fuelwood production. This neglect was prevalent internationally in the early 1970s with little funding or research dedicated to the topic. She quotes Foley and Barnard's comments on the increasing deficit between demand and supply which led to woodlot projects of varying success in Malawi, China and South Korea (Aron et al 1989: 4) but appeared unaware of the work done which focused on women as users (Tinker 1982; Hoskins 1983). Due to South Africa's isolation from the international academic and development community, researchers lagged some ten years behind the energy for development thinking, although once started, they moved along similar trajectories to those attempted in Latin America, Asia and the rest of Africa, suggesting solutions such as woodlots, efficient cook stoves, and substitutes such as briquettes and solar technologies as alternatives in rural areas. It was a familiar pattern of researchers determining the problem, finding solutions and attempting to implement them without reference to the people with the problem and even these comparatively innovative developments were limited to a few site projects.

In the 1980s Gandar moved to the National Research Institute (NRI) in Pietermaritzburg and continued his interest in assessing wood stocks as well as how to use them more efficiently. He determined that by 1983 there were some 19,500 woodlots for poles and firewood in the black areas and TVBC states, most of which were unproductive (Gandar 1988: 248). While Gandar understood technology in the form of more efficient stoves to be a solution to the diminishing wood supplies, he attempted to introduce a new element, participation, into his projects and to work with the people who were to use them rather than develop the stoves in laboratories. As early as 1982 had made this approach clear when he had written: 'Don't plan or design from a distance. Design with people, not for people' (Gandar 1985: 134). He was also involved in the Simunye Organisation at Valley Trust, an integrated development project which included a woodlot project. Unlike many others it worked well, because, as Gandar argued, it was run by a community committee, and was controlled from 'the bottom up' rather than from 'the top down' (Gandar 1988: 254). This early example of a holistic approach to development through democratically elected representatives is significant. However since the methodology is not described and there is no mention of men or women (only the apparently gender neutral 'committees'), it is difficult to know whether any women were involved in the committees and/or whether men and women benefited equally from whatever 'working well' meant.

Gandar continued to work consistently and painstakingly on his quest to find a low-cost, fuel-efficient, wood-burning stove for use in rural and peri-urban areas. He wrote increasingly about there being two components to designing such equipment: one was the technical aspect and proficiency, the other was 'the social research which tests whether stoves are acceptable and meet people's requirements, and evaluates the impact of the stove on domestic energy consumption' (Gandar 1991: 1). Gandar does not define 'people' but is clear at this stage that women as users were involved in the study. The stoves met with limited acceptance. Gandar commented that: 'It was not possible to quantify the effect of the stoves on wood consumption accurately, because not enough prototypes were available for an adequate sample, but the evidence was that the effect, if any, was only slight.' He concluded that the widespread dissemination of stoves would not lead to a sudden and spectacular reduction in the overall wood demand. Although he was working with women, he never quite got to asking the women involved what their solution would be. Bronwyn James did the first thorough qualitative



investigation into women's perspective on woodfuel use in the 1990s and hers is one of the theses examined in Chapter 5.

### **Renewables, progressive research and women**

Limited though the experience and literature available to South Africans was, it provided abundant evidence of the questionable success of stoves and woodlots. Realising that the government was not going to extend grid electrification, those interested in addressing diminishing wood supplies sought substitutes for wood in renewable sources of energy. The wind, waves, water and the sun offered potential energy services either directly (solar dryers and passive heating) or indirectly through harnessing their power to generate electricity. There were several researchers, some with altruistic motives and others interested solely in technology, who were conducting small scale experiments into the development and viability of alternative sources of energy, including biogas digesters, solar home systems, solar water pumping systems and thermal applications for housing (Eberhard & Williams 1987). By 1986 Eberhard and some of his colleagues from the Energy Research Institute (ERI) (within the Faculty of Engineering at the University of Cape Town) were sufficiently motivated and influential to bring the two groups together at a conference on the 'Renewable Energy Potential in Southern Africa'. Unlike the conferences on social issues, the 'Research Utilization Seminar' above and the 'Women and Gender in Southern Africa Conference' below, no permission from the ANC or any front body was necessary to hold this technologically significant conference.

The proceedings (Eberhard & Williams 1988) reflect the thinking and technological developments relating to renewable energy sources in South Africa at the time. The studies were primarily from the supply and design perspectives but four (out of nineteen papers) are significant in that they shift from presenting technical data only, to attempts to incorporate socio-economic data and reflect some of the potential users' views. S Baldwin, J Basson, M Gandar, and M O'Donovan and are notable in this regard. Also noticeable is the participation of three women: S Baldwin, with an MSc in chemical engineering developed fuel efficient wood-burning stoves in the laboratory at ERI. R Diab, MSc, PhD, a senior lecturer in the Department of Geography at the University of Natal, Durban, worked on CSIR sponsored research projects to assess the wind energy potential in South Africa, and A Muhlenbruch-Tegen, a senior meteorologist who joined

the Department of Geographical and Environmental Science at the University of Cape Town, presented a paper on the availability of solar radiation data. These women's papers are no different from most of the men's, nor are they gender sensitive in any way, demonstrating the point that the presence of women in male dominions does not necessarily challenge gender relations or raise awareness of women's issues. It is worth casting a brief glance over the studies presented by the women in order to contrast them with the feminist theses of Chapter 5.

Baldwin's paper on wood-burning stoves is about heat intensity and fuel efficiency under laboratory conditions. Eberhard (1988: 23) claims that 'working from first principles, and from needs identified in village level surveys, the ERI has designed single- and multi-pot stoves which have achieved in excess of 50% efficiency under laboratory conditions'. In her introduction Baldwin is more cautious than Eberhard, but still optimistic. She pointed out that despite the fact that there had been twenty-five years of experience which had produced prolific designs and little acceptance of any of them, she believed that the ERI could produce an optimum design of 'a low-cost fuel-efficient stove, with the potential for local manufacture and dissemination ... which will result in the mitigation of the demand for fuelwood' (Baldwin 1988: 278). While she tackled fuel-efficient stoves from the point of view of precise laboratory design and thermal efficiency, she echoes Eberhard's statement that the stoves take into account the 'needs identified in village level surveys'. What these needs were or how they were defined and incorporated into the design is not mentioned. By the end of her paper Baldwin is rather more cautious about the viability of the stove. She notes in her conclusion that achieving energy efficiency in the laboratory is relatively simple: 'Clearly from the design guidelines and laboratory tests it is not a difficult task to construct a low-cost woodstove with fuel-efficiency superior to that of the traditional open fire.'

But, she acknowledges, maintaining this efficiency in every day use would depend on a number of social variables which would determine the degree to which the stoves contributed to woodfuel conservation, rather laboratory measures of its efficiency. Neither these nor other equally carefully designed stoves were successfully disseminated despite efforts by Dickson in the field in 1990 as described further on.

Muhlenbruch-Tegen was the second woman to offer a paper. Hers was a compilation of data for solar radiation for specific sites monitored hourly by the Weather Bureau for

global and diffuse radiation. This data was analysed and made available to solar installation designers in an accessible form (Eberhard & Williams 1988: 30), an essential first step in deciding whether solar installations were feasible in rural areas. However as Wentzel (2000) discovered in the 1990s (Chapter 7) this is not sufficient reason on its own to invest in solar capacity. There has to be an interest on the part of potential users too. Social acceptability was not part of Muhlenbruch-Tegen's research.

Diab, the third woman presenter, is still active in energy research. She gave a paper which provided a detailed description of the potential of a variety of sites in South Africa to yield general wind speeds worthy of exploitation. This is a purely technical report and suggests wind power as a pollutant free ancillary to other forms of electricity generation (Diab 1988: 177). Diab's presence at the conference is significant because she provides a link to one of the three women-centred theses. She continued her wind research in several areas including KwaZulu-Natal and one of her sites became the location of Bronwyn James' woodfuel survey and fieldwork for her thesis (Chapter 5). However her paper does not mention users. The only direct mention of women as specific category of users came from Eberhard who suggested that NGOs could provide the link between authorities and communities to ensure 'that the interests of women, and the poor and landless are taken into account' (Eberhard 1988: 22).

The publication of the conference proceedings was clearly an attempt to open the debate on electricity and energy supply other than coal-fired power stations and the national grid. The environment was not yet a major issue on the energy agenda and this is reflected in the papers, nonetheless there are several passing references to renewables being pollutant free (Eberhard & Williams 1996: 25).<sup>49</sup> Interestingly Eberhard was

---

<sup>49</sup> The links between energy and the environment were slow to be made. There was no discussion, for example, at this conference about the environmental impact of dams for hydro-electric schemes, nor the of the potentially harmful processes involved in the manufacturing of photovoltaic panels nor the potential of dead batteries leaking lethal chemicals into unsuspecting rural homesteads (there is still very little attention paid to these aspects of renewables). Links between energy and the environment received impetus at the United Nations Conference on the Environment and Development in Rio de Janeiro (the Rio Conference) in 1992, and were taken up to some extent in the EPRET programme (see further on in this chapter). The links between gender, energy and the environment were

unequivocal that metropolitan and industrial areas had as much to gain from renewable technologies as underdeveloped areas (Eberhard 1988: 25). This was not followed through in his later research. Eberhard used the conference (and the publication) to raise the question of research funding for renewable energy, and berate the authorities for virtually ignoring it. He pointed out that 99% of energy research funding was devoted to nuclear research while just 0,1% was allocated to renewables, commenting that this was 'despite the fact that no further nuclear power stations are envisaged before the turn of the century.... This imbalance of research funding reflects neither current energy consumption patterns, nor long term potential' (Eberhard & Williams 1988: 25). In this way Eberhard and Williams drew attention to sub-sectors, and indirectly users, who had been neglected by the Department.

This was a brave statement in those times. It found some resonance in the Department and a few years later a grant for research into renewables was made. The conference was also a bold attempt to guide the development of renewable technologies towards being used by all, and to raise the profile of those without access to electricity, who were, after all, to be the recipients and users of most of this new technology. The proceedings constitute an engineer's handbook rather than guidance for social policy and intervention. It is full of useful and practical diagrams, and facts and figures pertaining to the potential cost effectiveness and efficiency of systems using solar resources; solar water heating, passive solar and energy efficient building design, solar electric, wind energy, hydro-energy and bio-energy. The group remained relatively unaware of the characteristics of intended beneficiaries. One of the papers which did attempt a socio-economic analysis came from Johan Basson from the newly-established National Energy Council, and target of Eberhard's funding barb. The papers that did refer to users were in the minority and there was no discussion of methodologies or issues such as participation or policy development. The energy sector remained primarily focused on technology rather than people.

It is time to examine how mainstream energy research had developed in the decade, and to understand the convergence of interest in renewables. While this convergence is

---

even slower to receive attention, but received a boost from the publication of *Energy after Rio* (UNDP 1997), see Chapter 7 onwards.

notable, the political differences were substantial and should not be made light of; the real power lay with the National Energy Council at least until 1994.

### **Mainstream energy research and state funding**

As described in Chapter 2, the development of the electricity sector in particular had been supported by the state from the time that Smuts saw the importance of a cheap electricity supply to the industrialisation of the country and acted towards creating Escom. Thereafter the state was thoroughly involved research for local industry (Christie 1984: 52). Up until the mid-1990s there were few independent energy organisations. Energy research in South Africa focused narrowly on engineering and technology and was housed largely within the parastatals, physics and engineering departments of universities and funded directly or indirectly by the state. Decision-making positions in energy research and its associated industries were dominated by white men (Ruiters 1995), usually white male engineers, who, for the main, represented the interests of the apartheid state and the elite (Christie 1984: 86).<sup>50</sup> Energy research was not exceptional in this, (most spheres of science, engineering and technology at the time were dominated by men) nor in its determined belief that technology could solve the country's problems.

There were two scales of energy problems which occupied researchers. Firstly at the international level there was the oil crisis of the mid-1970s, which had been precipitated by the Arab-Israeli war of 1973. The scare raised the possibility of the flow of fossil fuels not being limitless and the focus of most oil-dependent countries of the north turned to energy security as they attempted to secure supplies and explored ways to stockpile petroleum (Marquard 1999: 10). After the initial shock, many of these countries broadened their focus to include a determined exploration of alternatives. Research into energy efficiency, alternative generation and deregulation began to be vigorously pursued (Marquard 1999: 10). The belief in energy efficiency and alternative sources of energy is of interest to this study in so far as it filtered through to influence the design and purpose of energy for development and brought the use of renewable sources of energy to the fore. The reasoning was that since large electrification schemes had failed (Chapter 2) and fossil fuels were limited and expensive, wind, water, waves,

---

<sup>50</sup> Included in Chapter 3 is a deconstruction of this phrase.



the sun and biogas might provide cost effective solutions to developing countries' energy needs.

South Africa experienced a different a different kind of problem. In 1975 it ceased receiving funding for electricity generation from the World Bank (Christie 1984: 156). As its pariah status deepened and the United Nations-led oil embargo began to take hold, the state pursued an isolationist path, striving towards self-sufficiency in oil production and electricity generation. In the 1980s it became increasingly obsessed with this, investing millions of rands in infrastructure, research and development (Eberhard & van Horen 1995: 16). By the early 1980s the state had built the inordinately expensive Sasol and Moss gas synthetic fuel plants, established a nuclear power programme and developed a secret strategic oil fund. The electricity utility, Eskom, which prided itself on being run on 'business lines' (Christie 1984: 86) initiated a massive and short-sighted expansion of electricity generating plants which, as industrial and commercial demand dwindled instead of expanded (and the electrification of the majority of households was not considered), had, in the mid-1970s, to be mothballed. Technological capability outstripped the social and political realities. Energy information and research was considered highly secret, the Petroleum Products Act (No 120 of 1977) prohibited the passing on of any strategic information and threatened severe penalties. The electricity industry was equally secretive as Christie discovered when he was arrested for disclosing information in his thesis (Chapter 3). Until the 1980s state involvement in energy remained uncoordinated but, prompted by developments in the west after the oil crisis, an energy department was duly constituted.

### **The DMEA and the NEC**

In 1980 the Department of Mineral and Energy Affairs (DMEA) was established to consolidate and promote energy interests (Fine & Rustonjee 1996: 97). Electricity and petroleum were, as they are now, the central concerns of the ministry. The need for the National Energy Council (NEC), the research arm of the DMEA was decided upon in the early 1980s but took several years to be promulgated. The NEC plays a significant role in this study because of its role as a primary funder of energy research. Until the 1990s there were no women in the NEC in any positions other than the library and administration (Interview with Viljoen, 2000). By 1994 there had been little improvement. Ruiters' data showed that of the 41 staff employed by the Energy

Directorate of the DME, all were white, with white women comprising 43% of the staff. More than three quarters of these were employed in traditional women's jobs – secretarial or administrative support functions (Ruiters 1995). A few women academics such as Diab were funded by the Council for Scientific and Industrial Research (CSIR, a parastatal) and later the NEC itself. There was no overt policy against women. There were comparatively few scientifically qualified women and equality between men and women was not considered an issue.

July 1985 saw the beginning of a series of States of Emergency being declared in South Africa (Seekings 2000) and the country was in a state of political turmoil. Despite the disorder and the well known deprivations of the disenfranchised majority, the energy concerns of the poor had not penetrated the DMEA. The NEC published annual figures on South African energy consumption but was slow to recognise fuelwood as 'the other energy crisis' (Eckholm 1975). The NEC did not report on the consumption of fuelwood (Aron et al 1989: 5) nor paraffin (Annecke 1992) which were known as the 'fuels of the poor'. Marquard (1999: 11) records that in 1987 the Minister and his Director General were genuinely puzzled as to why the DMEA should be the target of the opposition's questions in parliament about diminishing firewood supplies in Natal. It had not occurred to him that this was an energy source, let alone one worthy of his Department's attention. The fact that questions had percolated their way through to parliament was an indication of the increasing volume and status of the alternative research being done (see below). The questions raised in parliament coupled with the demands from the townships for basic services, including electricity, began to have an impact on the National Energy Council. As the responsibility for providing energy services to all citizens gradually dawned on the Department, it began to pay more attention to the needs of the majority (Marquard 1999: 25). The direction this took was to investigate the possibilities of renewables, rather than support wood fuel use, or extend electrification to all black households. Considering Foley's cynical dismissal<sup>51</sup> of renewables it can only be said that the DMEA was naively enthusiastic about the potential of renewables to meet the energy needs of rural people (as it still is in 2002, See Chapter 7-9).

---

<sup>51</sup> 'As for renewable energies, it is now obvious that the fad for them is passing' (Foley 1988: 15 in Chapter 2).



Albeit unevenly, acknowledgement of poor and black people's needs began to be reflected in the DMEA's areas of research and were reported in the Annual Reports and Energy Policy. In 1983 and 1985 there is no mention made of energy services for any group which could be construed as representing black people (NEC 1983, 1985). In 1984 under the National Programme for Energy Research there is mention of tests done on solar water heaters for low income households, which indicated interest in supplying black households who did not have electricity with an innovative method of obtaining hot water (NEC 1984). There was no name attached to the research, but it was Johan Basson's project. Basson was a mechanical engineer who worked on conventional and solar applications in buildings. He was head of the Energy in Buildings division of the National Building Research Institute (another parastatal) before being appointed Deputy Manager of the National Programme for Energy Research and Co-ordinator of the Division for Alternative Technology. Thereafter he headed the division on strategic planning and modelling at the National Energy Council (Eberhard & Williams 1988: 305). It was in the latter capacity that Basson presented a paper at the 'Renewable Energy Potential in Southern Africa Conference' held in 1986. Basson reported on a project involving 100 solar water heaters which had been donated for research and demonstration purposes (Basson 1988: 61). The significance of this research was that it was done by a relatively conservative, Afrikaans speaking white male engineer in a government department, and it considered not huge investments into infrastructure for industrial purposes, but innovative technology for *household energy use*. It was among the first research to take users' opinions into consideration:

As far as is known, this is the *first major* South African research and demonstration project on solar water heating. The project is unique in the sense that it not only researched the patterns of use of low-cost ISWHs<sup>52</sup> functioning with, and independently of, electric geysers, but it also *included a social study of the attitudes and reactions of families to an unfamiliar concept*. An important feature of the project was therefore concerned with the ability of families of low income to adapt to solar water heating, and in this case, characteristics of the ISWH. (Basson 1988: 75, emphasis added)

---

<sup>52</sup> ISWHs – integral solar water heaters.

The politics of energy provision are not simple. As with nearly all renewable energy projects affordability and initial down payments were obstacles and the project was not taken much further. However the study provides evidence of Basson's own interest in renewables and some awareness on his part of the conditions of low-income households in his sample. 'Families' and 'household' are used interchangeably in the paper with no indication of whether the members of the household were related, who in the household was interviewed or whether all members of the household used hot water equally. Nonetheless there is a noteworthy attempt to include the users in the assessment of the project's usefulness. In the 1990s Basson was quick to see the usefulness of the three women's focus on socio-economic conditions and users. The 'Renewable Energy Potential in Southern Africa Conference' at which Basson presented his paper, was organised by Anton Eberhard and referred to earlier. Eberhard's call for funding for renewables and development research at the close of the conference did not fall on deaf ears. Basson was part of a group who showed increasing interest in energy matters outside of strategic interests in petroleum products and electricity. He recognised the need for work to be done in the area of renewables (Marquard 1999: 25) and through his position in the NEC was able to foster such studies as well as encourage some researchers' growing concern with the manner in which socio-economic factors influenced energy use (Marquard 1999: 11).

In 1986 the NEC's National Programme for Energy Research had a sub-heading 'alternative technology' and under that 'appropriate technology', with a list of projects being done by Anton Eberhard in the ERI (NEC 1986). These were funded by the NEC. However inadequately, the government had begun to pay attention to consumers without electricity and to look to alternative technologies to provide for their energy needs. Although these were important steps towards including black people, the inadequacy and marginality of this research should be kept in mind. To begin with the size of the problem was unknown or denied. Basson estimated that there would be approximately one million dwellings without electricity in the year 2000 (Basson 1988: 75). The actual figure was closer to two million and would have been four had it not been for the accelerated electrification programme after 1992.

The Energy Policy Paper of 1986 was issued in the same year the Renewables Conference was held. It was a terse document, only 14 pages long, providing an objective for energy policy, outlining a framework for the formulation for further

energy policy and guidelines for the formulation of energy strategy. There is lots of white space and generous layout even in the sparsely typeset fourteen pages. The document could not contain much substance since most sub-sector detail was secret (Eberhard & van Horen 1995: 16). There was a small shift in that for the first time there is an acknowledgment of the presence of black people and a duty of the DMEA which was described as:

5.1.1 Endeavouring to provide, within parameters that can be justified in economic terms, appropriate and adequate energy for every person, household, community and economic sector, to be utilised to their advantage and that of the community. (White Paper on the Energy Policy of South Africa 1986: 7)

Couched in this language was a superficial commitment. The DMEA had the power to decide what appropriate meant according to national economic conditions, and, since the government had decided against electrifying all black households, this created some scope for investigating whether renewables might provide the answer. In 1987 the NEC introduced a new research area, 'Energy for Developing Areas', indicating further interest in renewable technologies and, more significantly, the NEC's Annual Report notes that:

The current situation is such that, although the countries of Southern Africa are richly endowed with energy resources, the supply of affordable energy in an appropriate form to the majority of the developing sectors of the population remains a challenge. (NEC 1987/1988:4)

This 'techno-speak' could be interpreted to mean that although there was an abundance of coal and electricity, limited grid electricity supply was considered appropriate only for some urban areas. The challenge was the development of alternative energy services which would be provided for black people in rural areas. In the 1988/89 Annual Report, a new division in the NEC called Energy for Development (read 'for black people and rural areas') was formalised and described in terms of renewables:

This division is responsible for identifying and promoting those new and renewable technologies that show potential for exploitation in the Southern

African region. The aim here is to provide adequate, appropriate and affordable energy to all. (NEC 1988/1989:5)

Marquard (1999: 12) points out that the energy problems of low-income rural households are effectively depoliticised when they are described as technical problems which can be solved by providing the appropriate technology. Research into renewables offered the solution to several problems: the potential for a cheap 'rural' alternative to electrification (thus justifying maintaining low wages) and an opportunity to appear innovative and interested in the rural poor in accordance with the government's policy of reform. In 1989 an opportunity to fund research which linked investigations into socio-economic issues with renewables presented itself to Basson's division of the NEC.

### **The Energy and Development Research Centre**

In 1988 when the proceedings of the Renewables Conference were published, Anton Eberhard and a small group of socially concerned engineers were ready to establish a research unit with the aim of doing a different kind of research to that pursued by mainstream energy researchers. In 1989 having secured five years of core funding from the NEC, they broke away from the Energy Research Institute and established the Energy and Development Research Centre (EDRC). The EDRC's five year grant from the NEC was significant. Although not large in terms of the NEC budget,<sup>53</sup> it allowed the EDRC to do pioneering work in energy and development, and specifically in household energy use. It enabled the EDRC to gain valuable experience for the new era, and to establish international networks. It was one of the anomalies of apartheid. The hegemonic state permits a degree of opposition – in this case evens funds it – as long as it provides no real threat to state security. Reinhold Viljoen who moved from the Energy Research Institute to the NEC gave the NEC's point of view: 'A couple of white men dabbling around in rural areas with photovoltaic systems and doing computer modelling' was considered useful rather than threatening. It could be used as evidence

---

<sup>53</sup> According to the NEC's Annual Report (1990-1991:15), the EDRC received a total of R755,300 in 1991. By comparison the Atomic Energy Corporation received R645,200,000. 'Energy for Development' research in the NEC received R2,670,000. Thus nuclear research was received 242 times more than 'development' research.

of the government's reform and development programme that was supposedly providing for blacks according to the separate development plans (Interview with Viljoen, 2000).

The EDRC was established self-consciously as an alternative to mainstream research efforts of the time. The group was not interested in advancing the state's strategic energy needs, but rather in focusing on energy solutions for 'development'. This was the first energy research organisation to be established for the primary purpose of promoting the interests of the black majority, and to be interested in household energy use of the poor. The initial group all said their motivation was that 'we wanted to make a difference'.<sup>54</sup> They believed that, through their research, they could. In attempting to turn away from narrow technological objectives and wanting to acknowledge the role of people, the first EDRC report declared that 'recognising that the problems of underdevelopment are not simply technical, EDRC follows a multi-disciplinary approach to most investigations and the training and skills of staff include engineering, economics and sociology' (EDRC 1992). The EDRC men may have been politically progressive, but the composition of their organisation reflected stereotypical gender roles and a patriarchal hierarchy with Eberhard as Director. It was never really able to take feminist perspectives on board. By 1991 the EDRC group had grown but it was hardly radical in its composition. There were nine white men, seven of whom had post-graduate degrees in engineering or applied science, one sociologist<sup>55</sup> and one, part-time media person who had a doctorate in English. Three white women, all with university education, were responsible for secretarial and administrative tasks. The high degrees of education and motivation made for an extremely productive unit.

---

<sup>54</sup> *Making a difference* is the title of the history of the EDRC by Eberhard's PhD student, Andrew Marquard. It is a common enough phrase, used in the Research Utilization Seminar above and by the three women in the chapter that follows, as well as many others. What would be interesting would be to examine individual interpretations of this phrase. What it meant for Eberhard above to Helena Dolny in the Land Bank (Dolny 2000) might be quite different.

<sup>55</sup> Bill Cowan did exceptional research on the technical and sociological aspects of PV systems and their installation for educational television in rural areas. With Glynn Morris and Mark Borchers he determined the direction for much of the EDRC research in renewables

In 1989 the men at EDRC tried to do something different but their research remained solution driven. Most of the developing country literature on energy operated within the paradigm of the fuelwood crisis and EDRC followed this path. The difference was that by 1989 this innovative group of engineers no longer saw the solution in efficient stoves and woodlots, but in the design and development of photovoltaic systems to meet the requirements for energy in low-income rural households (Marquard 1999: 17). With funding from Dutch donors, EDRC set up a field station, the Mpako Rural Technology Unit along the Mpako River in the Transkei. It was led by Bruce Dickson, a civil engineer formerly from the ERI, who moved there with his family for the following four years (although the EDRC's rural station really only operated from 1989-1991).

As evident in the 'Research Utilization Seminar', by this time 'participation' had entered the development discourse. It was not clear what the goals of participation were but in the light of years of exclusion and non-participation, and as an addendum to transparency and democracy, it seemed a good and necessary activity. Participation as a method used by adult educators, feminists and some development workers, had developed a fairly solid basis and literature (Chambers 1983; Hope & Timmel 1984; Sen & Grown 1988). However techniques for participation in energy research and implementation were not well known or understood (Eberhard & van Horen 1995). Dickson went into the field armed with good intentions and a whole lot of solar equipment. He attempted, as Gandar had, to engage with rural people and obtain their participation in working with the solutions the EDRC researchers had designed. The implementation of this project showed little evidence of understanding of process or 'bottom-up development', such as starting with the community's understanding of their problems. The participation entailed a process of approval and acceptance rather than a joint problem solving exercise. The solutions had been decided upon and designed prior to engaging with residents in the area, and were not what they needed. Dickson (quoted in Marquard 1999: 19) took the brunt of the lessons from the misplaced enthusiasm of top-down researchers wanting 'to make a difference' and serve the people with new technologies. He commented:

There was, ironically, from the beginning, a lack of common ground between the needs and desires of the local community and what the EDRC had hoped to achieve through the unit in term of technology development.

He remembered how the local communities wanted tried-and-tested services such as spring protection, which required no innovation:

The EDRC was into solar pumping... which was like trying to walk before you could crawl.....You have got to respond to their needs if you are going to be out there, otherwise you can't interact, and people don't want to know you.

Women are invisible in this project, despite being the group who wanted clean spring water and relief from fuelwood collection. Dickson was learning from experience what participation could mean but links between the Mpako Rural Technology Unit and the Cape Town based researchers were weak and there were no structures to enable him to transfer these experiences back to the EDRC (Marquard 1999: 19). One of the reasons for the weakness was that Eberhard had moved on to investigating electrification in urban areas in Cape Town. He was becoming convinced that universal electrification was possible and was probing the boundaries of Eskom's non-electrification policies. This was a sensitive subject somewhat beyond what the NEC had intended EDRC should do, and EDRC's relationship with its primary funder began to deteriorate.

Post the unbannings in 1990 the EDRC proceeded to align itself more openly with the ANC [Anton Eberhard and Paul Theron among others were card-carrying members of the ANC (Marquard 1999: 26)]. Also important at the time were the negotiations that led to the drafting of the Reconstruction and Development Programme, the principles by which the new government was to build a more equitable society. EDRC played a role in this, supported by Cosatu's position which considered electricity a basic need along with water, housing, education etc. The National Union of Mineworkers had done a calculation of the 'knock-on effect' of electrification of 3.5 million households in terms of increased production of electrical goods. They thought electrification would be a spur for manufacturing and job creation and put their weight behind the process (Barrett 1993: 11). In 1992 the EDRC hosted the ANC Electrification Conference whereafter its relationship with the National Energy Council became uncertain and abrasive.

This was not a concern to Eberhard. He was busy working on a proposal for a farsighted new project. Once the tide had begun to turn against the old apartheid regime, the



Codesa<sup>56</sup> negotiations were underway, and the arrangements for an interim government and negotiations for a Government of National Unity (GNU) in which the ANC would be the dominant partner, had begun in earnest, it became clear that the new democratic government would have to re-allocate resources. New, inclusive policies would be required for almost every sector. During the transition phase institutions and organisations made significant shifts in order to accommodate the new order and come to terms with what it would mean for the ANC to be a political party/ soon-to-be-in government rather than a liberation movement. Principles and partners changed rapidly.<sup>57</sup> Experts and consultants from all over the world began arriving in the country to advise the ANC on the necessary policy changes. Since socio-economic and political choices may be justified in terms of research findings, there was a somewhat undignified scramble by many researchers and research organisations to have their work accepted and incorporated in new ANC policy. There was also considerable funding available for research policy development in the world's newest hope for a peaceful transition to democracy.

From their own studies on household energy use, the EDRC realised that there was little knowledge or experience anywhere in South Africa on how to achieve a more equitable and accessible energy sector. A fortuitous visit from a Dutch official prompted Eberhard and Theron to write a 'multi-million rand research proposal' (Marquard 1999: 28) to conduct a policy research project which would focus on the energy needs of poor households and related structural and institutional issues, and build capacity for the future. This two year project, the *South African Energy Policy Research and Training Project*, which was known as EPRET ran from 1992/3-1994 and had two primary aims:

- to explore and design policies which would widen access to adequate and affordable energy services for poor rural and urban households;

---

<sup>56</sup> The multi-party negotiating forum for the new constitution.

<sup>57</sup> In sharp contrast to the 'struggle' days, the USA, for example, became not only an acceptable funder of projects programmes, individuals and research organisations, but a sought after one, and the USA government reciprocated with a keen interest in South African affairs. The DMEA rapidly began an association with the Department of Energy in the USA (USA DOE 1995).

- to address past imbalances and increase the number of black researchers. (EDRC 1994:6)

The project was designed in three phases, the first was a preparatory phase, the second a research phase, and the third the dissemination of information (EDRC 1994:2). The EPRET project was funded by the Dutch government. It began in 1992 and was directed by Eberhard. When EDRC made this shift to policy research, several of the original members left EDRC, and many new staff were engaged. Some description of EPRET is essential to this study for three reasons: firstly, it was the largest and most ambitious research project geared towards energy for the majority of South Africans – and basically that meant energy supply to poor black urban and rural households. Secondly, there was, for the first time in the energy sector in South Africa, a concerted effort to include black people and white women in a meaningful researcher programme towards new policy. However EDRC had no strategy as to how to create space in their power hierarchy for these new researchers to make their contributions. The ensuing tensions did not provide an environment conducive to producing committed researchers. This is dealt with further on. Thirdly, while the EPRET project was in progress, the Women's Energy Group (WEG) came to be located at EDRC. WEG provided a significant channel for women's research and contribution to the new policy (Chapter 6). The organisational dynamics within WEG and EPRET played off each other and affected the research, the researchers and the activities undertaken. This is explained in Chapter 6.

### **The South African Energy Policy Research and Training Project (EPRET)**

EPRET was a complex and challenging programme both in terms of managing people and managing the research content. Nothing quite like it had been undertaken in South Africa previously and shortcomings were inevitable (Eberhard & van Horen 1995: 198). Some of the complexities related to changing staff relations, others related to the research framework and content.

**The preparatory phase** of EPRET included increasing and changing the staff composition in preparation for the work to be done. In 1990 EDRC staff had consisted of white males, all but one (a sociologist) of whom were engineers. It was recognised that a different set of skills and discipline knowledge would be required to understand and write policy. Economists, planners, policy and human resource experts were sought.

EDRC increased the number of support staff and for the first time employed women and black men as researchers. Although still in the minority, this change in staff composition began to alter the dynamics in the staff room. In addition, to fulfil the second aim of capacity building, the EPRET project employed seven black trainees.

The **second phase** of the EPRET project entailed integrating the seven trainees into the research. The energy sector was new to all the trainees so they had to be inducted into the sector as well as be prepared to do the research required, specifically in the policy arena. The trainees came from diverse backgrounds. None were engineers, three of the seven were women, and all had postgraduate degrees in areas such as Development and Public Policy that would be useful to policy research. The pedagogic model used was a demanding one. The trainees were offered an intensive six-month course on the energy sector with lectures every day. They were also expected to participate in workshops and make sophisticated presentations. The ordinary master's students at EDRC were envious of the intense attention the trainees received (Interview with Hofmeyr 2000), but some of the trainees found the pressure too concentrated (Interview with Tyatya 2000).

At the end of six months, the trainees were attached to EPRET or other projects to work alongside researchers, thus theoretically gaining immediate and relevant experience and contributing to the studies being produced. The male trainees gravitated towards the research being done by male economists and engineers, the women towards the work being done on household energy. Because the pressure to produce research results was profound, and few of the researchers had experience in supervising, trainees did not always receive the mentoring and guidance required. This created considerable resentment (Interviews with Hofmeyr 2000, Tyatya 2000, Mabuse 2002). Bronwyn James (1999) exposed the race and gender tensions in EDRC at the time in some detail, including the feelings of inadequacy among women and black male researchers (Makan 1993, Interview with Tyatya, 2000). This was exacerbated by the trivialisation of juniors' work by the entrenched white male hierarchy supported by a network of nine white male consultants.

On the other hand the senior researchers themselves were under considerable pressure in the second phase. Mapping out and investigating the potential for *improving equity* in the household sector was a vast undertaking (Van Horen 94: 1). Researchers attempted to get to grips with the new field of energy policy, what it meant, what information was

needed to develop policy, and what was possible. The EPRET objective, to improve equity by *widening access* to energy services for the urban and rural poor, required conceptualising the energy system in a manner different to that of the apartheid era. A particular approach, the analytical framework of integrated energy planning (IEP), was posited by Eberhard (1994) for the programme. IEP was presented as a method for planning to achieve goals of equity and ‘as an antidote to the traditional supply-side planning that had dominated the South African energy sector for so long’ (Marquard 1999: 30). It required thinking about the entire energy system, the links between macro-economic factors and socio-economic objectives, and examining and documenting these in ways that could inform policy decisions (Marquard 1999: 30).

The underlying principle employed in integrated energy planning is that some fuels may meet some energy needs more cost effectively than others. Thus ‘*all* supply options should be given equal attention and should be evaluated in finding the optimal way of meeting end-users’ energy demands’ (Eberhard & van Horen 1995: 149 italics in the original). The framework was contested within EDRC for *not* affording all energy sources equal attention, and for being ‘gender blind’ (Makan 1994: 5). This is taken up in Chapter 7.

Although EPRET was intended to address past imbalances in race and gender in EDRC as an organisation, little thought was given as to how to do this beyond appointing a number of women and black men. No thought was given as to how apply this to the research content. This was an ideal moment at which to include women in a disaggregation of end-users but it was overlooked. The progressive hierarchy was willing to address race imbalances which it was assumed would be corrected by the focus on domestic energy use in low-income areas and households. Despite repeated requests (Interview with Mabuse, 2002) they were unwilling to acknowledge gender as a category of analysis. While the 20 EPRET papers that were produced represented an extraordinary achievement and a progressive effort to address domestic energy services, the project missed the opportunity to be truly sensitive to the principle of equity by excluding women and structural power relations from their considerations. Women at EDRC and as members of WEG lobbied for women/gender to be included. Towards the end of the programme, gaps in knowledge about categories of users, primarily women and farm-workers, were acknowledged and women were hurriedly instructed by the

project manager to produce appropriate papers to plug these gaps (Personal communication Makan, 1994; Interview with Hofmeyr, 2000).

To this end Human Resource Manager, Wrenelle Ruiters, and EPRET trainee Amita Makan, scrambled to produce an audit of women in the energy sector (Ruiters 1995) and a gender critique of the IEP framework respectively (Makan 1994). A masters student, Ilne-Marie Hofmeyr (1994) wrote a study of the energy use and needs of farmworkers (which paid significant attention to women). At the time this 'retro-fitting' gender to projects was a regular occurrence. Member of Parliament and feminist activist Pregs Govender expressed the frustration of many women at the time when she said:

At the last minute we were asked to 'gender edit' the white paper on the RDP. It was highly unethical and unacceptable for women to be asked at this eleventh hour, but our refusal to 'gender edit' the white paper would have meant that women's concerns would not have been included in the RDP. But to agree on the edit meant that it was to be a rushed effort. We agreed to 'gender edit' the white paper because we had no choice but to do so. (Quoted in Kathree 1995: 25)

Kathree (1995: 25) reported a similar train of events happened around the drawing up of the Country Report to the Fourth World Conference on Women in Beijing Report. It was certainly a common experience among women at the time. Makan, a young post-graduate schooled in gender studies and a member of WEG, made a significant contribution to raising the profile of gender and energy issues. She wrote a useful critique of the IEP framework as insensitive to gender:

The IEP framework overlooks the fact that women are the primary users and managers of energy at the household level, treats 'the poor' and 'households' as homogenous categories and thus both ignores the different needs and interests within these categories and fails to address the unequal gender relations within households. (Makan 1994: 5)

She argued that the EPRET recommendations remained gender-blind on the grounds that the research was informed by secondary sources and based on quantitative and statistical research methods (Makan 1994: 18). Neither of these methods need be gender-blind. Quantitative research and statistics can be used to argue for women and

IEP could have been conceptualised differently to include a nuanced analysis of suppliers (indicating where women are positioned on the production chain) and users, and examining the relations between users within households. This would have provided the disaggregated data and information that Makan suggested was necessary to develop policies equitable to women. In seeking other ways to do this, Makan recognised that integration with other development initiatives was critical and warned against a sectoral approach to energy provision.

She noted that an integrated approach would include ensuring that women owned land and had access to financial resources (Makan 1994: 11) and identified several other elements that need to be clarified. These included recognising that, because of the gendered division of labour, men and women have different roles, different access and control over resources in the household, community and society in general. As a result needs and interests can be identified on the basis of gender (as well as other factors such as income, class, age etc) which must be accommodated in policy. However Makan did not limit herself only to highlighting gender roles, she proposed a framework for gender sensitive policy and planning, arguing that:

planners must recognise that in fulfilling practical gender needs through electrification of households, for example, the gender division of labour may be entrenched. Researchers and policy makers must accept the importance of challenging conventional social relations in order to address gender needs. (Makan 1994: 9)

Makan's report challenged the predominant world-view of the EDRC hierarchy and created space for discussion. It was at a high personal cost.<sup>58</sup> Women and gender issues were generally dismissed as trivial or tangential to the serious labours of the men, not only were the 'gender papers' tacked on at the end of the project at women's insistence, but the writers were undermined and ridiculed while they were working (Interviews with Hofmeyr 2000, Mfenyana 1999, James 1998. Personal communication Makan, 1994). A lasting consequence of the EPRET programme was its impact on EDRC

---

<sup>58</sup> Amita Makan left EDRC burnt out and exhausted (Personal communication Khibi Mabuse 2002).

organisational culture, and, having disrupted staff relations and raised the question of affirmative action, these issues had to be addressed.

Despite its inadequate understanding of gender issues, the EPRET project could be said to have made a significant contribution towards its first objective: 'to explore and design policies which would widen access to adequate and affordable energy services for poor rural and urban households'. Whether it was equally successful in fulfilling its second objective, 'to address past imbalances and increase the number of black researchers' (EDRC 1994:6) – is less clear. As a once-off project sponsored by international funders, EPRET did not solve the problem of capacity and training. Training should be an ongoing concern in the sector if it is to be successful. Nor was the EPRET learning experience a happy one for most of the students. Several found it 'traumatic' and some remain angry at the way they were treated (Makan 1993; Interviews with Tyatya 2000, Mabuse 2002). A significant part of this was Eberhard's self-confessed inability to recognise and nurture potential:

I believe I created barriers. My general attitude in dealing with researchers was 'prove you can do it and I'll believe in you'. This made it very difficult for new entrants as they had no proper perception and understanding of what was needed. I could only see potential when it was demonstrated. I struggled to see what was possible. Standards and quality was valued but very little space was given to progress to those standards or, indeed to redefine the standards. (Interview with Eberhard quoted in James 1999: 31)

The highly competitive character of EDRC and the pressure to produce research meant that several of the trainees remember the time as one of chronic stress. Nonetheless at the end of the project most of the trainees found work in the energy sector and have made substantial contributions to it. Amita Makan stayed on at EDRC for a year as the leader of a domestic energy project, two of the men currently hold senior positions in the DME and the electricity utility, and the EPRET supervisor and two other former woman trainees currently hold senior positions in the Department of Transport. The best that could be said is that EPRET provided an important training opportunity for some of the first black women and men wishing to enter the energy sector in South Africa but it did not go far enough in creating and conceptualising a sustainable training programme.



The third phase of the EPRET project involved the dissemination of information. The project produced twenty policy papers and it was important to distribute this new information widely. The papers covered energy issues in forestry, transport, rural electrification, micro-enterprises, household petroleum products, electricity pricing, financing, human resources, the structure of the electricity distribution sector, rural energy of policy. It also included background information and an analysis of demand, efficiency, the environmental impacts of various options, and energy supply options for households (Marquard 1999: 30). Even tacked on at the end, a gender analysis of each of these would have been uniquely valuable. The reports were subjected to an international peer review process and workshop. Thereafter they were published by EPRET /EDRC in 1994. After the workshop an important phase followed involving the production and synthesis of the research aimed at specific stakeholders, the development of multi-media presentations aimed at different audiences, and the writing of a book (Eberhard & van Horen 1995). At the time there was criticism from within EDRC and WEG of the multi-media presentations of the results which were delivered in 80 'roadshows' (Marquard 1999: 30). It was argued that the road shows were an expensive, glossy, marketing exercise aimed exclusively at the powerful and the elite. This was the era of democratisation and participation and EDRC researchers working on energy services for households believed that this would have been an ideal opportunity to inform poor and rural communities and particularly women, about what was being considered in terms of energy services provision for them, and how they might become involved in the process of developing policies (Interview with James, 1999). Lasting documentation and analysis was provided when Anton Eberhard together with Clive van Horen compiled a book from the collection of studies covering demand and supply sectors and including cross sectoral themes such as the environment.

The EDRC has had a significant impact in the development and policy making arenas of the energy sector and particularly research into household energy and electricity use, and as such, EPRET was an innovative project. However EDRC constituted a bulwark of white male authority, proving a difficult and unhappy place for white women and black people to try and work (James 1999). The EPRET project in 1992 saw the introduction of race and gender dynamics. An element of ferment was introduced, (which no doubt reflected tensions in the wider energy sector) and led ultimately to the transformation of the organisation. This culminated in black women researchers being in the numerical majority in the organisation in 1999. Professor Ogunlade Davidson

from Sierra Leone was appointed when Dr Eberhard's stepped down in 2000.<sup>59</sup> On the whole the EDRC has been able to survive the transition and has taken on a new area of research; climate change. To date climate change has been dominated by men and technical data so that in a sense EDRC has returned to where it was ten years ago.

In order to complete the overview of the status of research pertinent to this study, the final section of this chapter provides a brief overview of the status of feminist research in South Africa.

### **The status of feminist research in the early 1990s**

In Chapter 1 it was suggested that the insertion of women into energy for development debates in South Africa followed a different path to that of international trends, and that initially, this different trajectory produced a different interpretation of women/gender and energy. Furthermore it was proposed that the approach followed was that of feminist research rather than energy for development, and that this feminist perspective was what produced the difference. In order to provide substance for this claim, it is necessary to furnish a brief account of what feminism and feminist research meant in South Africa in the 1990s. This will provide some measures against which to evaluate the three theses in the next chapter.

Gender refers to the relations of power and identity between women (as well as between women and men) and in South Africa particularly (although not exclusively) between women of different races. There have been 350 years of uneven and uneasy relations between women in South Africa, fraught with tensions of race and class, and dominated by allegiance to 'their' men. Among others Qunta (1987) and Walker (1990) provide different interpretations of this history. It cannot be overlooked. Only a few women crossed the racial divide. On the whole the differences in interests can be exemplified by the white women's suffrage movement which excluded black women (Walker 1990: 343). Both black and white women have a long history of resistance in South Africa (du Toit 1921; Jawitch 1978; Walker 1982; Wells 1982; Khuzwayo 1985; Beall 1987;

---

<sup>59</sup> Conditions change rapidly in South Africa. In 1999 black women constituted the majority of the EDRC staff. At the end of 2002 out of a staff of fourteen researchers there are only four women left, two black and two white.

Beinart 1987; Qunta 1987), and many could identify with self-defined African feminist Changu Mannathoko's (1992: 71) definition of feminism as:

a broad term for a variety of conceptions of the relations between men and women in society. Feminists question and challenge the origins of oppressive gender relations and attempt to develop a variety of strategies that might change these relations for the better. All feminism pivots round the recognition of existing women's oppression and addresses the prevailing unjust and discriminatory gender relations. Feminism does not just deal with issues of justice and equality but also offers a critique of male-dominated institutions, values and social practices that are oppressive and destructive. Even though feminists share the same ideas in terms of what gender oppression might mean, they differ widely in terms of analysing its origin and what constitutes women's liberation.

However, as a consequence of racial domination and in a move designed to divorce themselves from western feminists, many black women have defined themselves as groups which deliberately exclude 'others' such as white women (Gqola 2001: 11). Some African women's movements have strategically re-claimed the power of naming and have chosen to speak of themselves as 'Blackwomen' or womanists or womanism (Abrahams 2001). The chapter does not attempt to do justice to the immensely complex topic of race (hooks 1982; Rich 1979; Hall 1997; Malik 1997; Maré 1999), other than to note its dominance as an organising principle. Chapter 2 highlighted the manner in which the development of the Minerals-Energy complex exacerbated these divisions and the following chapter attempts to assess how the principles of self-defined feminists shaped research processes and findings with regard to women in/and the energy sector.

It has been argued that there is 'one truly non-racial institution in South Africa, and that is the institution of patriarchy' (Govender 1993: 42). Notwithstanding criticisms of patriarchy (Walker 1990: 346), the concept is universally used to describe a system of male domination over women. If the common experience and subjection to patriarchy had bound South African women together against a common oppressive system, the prognosis for a sisterhood may have been positive. But it did not. South African women organised around *issues* which affected or oppressed them: the suffrage, the Pass Laws, the beer halls and abortion rather than against the systemic and structural causes of oppressive gender relations. McFadden (2000: 1) who describes herself as proud to be a

radical, black and African feminist, argues that the struggle against patriarchal control is one of the oldest struggles in international history. New in Africa (and the rest of the world) is a focus on the roles played by men; the changing nature of patriarchy, work and masculinities have come under scrutiny (Morrell 1998; Jackson 2000; Olsen 2001; Ratele 2001), as well as considerations of men as part of the solution (Morrell 2000). An equitable solution however is still some way off. Although women have used a variety of subversive tactics to resist it, patriarchy remains a deeply entrenched system often embedded in cultural beliefs and practices which silence the voices of women (McFadden 2000).

The post-modern positions ascribe the lack of solidarity among women to resist patriarchy to the fact that women are not a homogenous category. Because there can be no unitary category of woman, there can be no universally shared experience of subordination or oppression, and no unitary category of feminism to resist this (Hassim 1991; Mohanty 1991). The acknowledgement of difference (de la Rey 1997: 9) requires that not only do the experiences of women have to be disaggregated, but the notion of patriarchy has to be deconstructed simultaneously (Moore 1994: 189). Relations between men and women at the household, as well as between men and women at the collective level of community, are of interest to development workers with regard to authority and power to make decisions, and access to and control over resources. Yet relations, and the collusion and reciprocity involved in relationships, are seldom explored, understood or analysed before planning and project decisions are made. More of this later.

It has been argued that the only characteristic shared by South African women has been a deep reluctance to call themselves feminists or see themselves as sisters (Walker 1985; Cloete 1992; Funani 1992; Fester 1992). Indeed for many black women feminism was a 'dirty word' (Meer 1997: 7; Horn quoted in Primo 1997: 36). The fractious relations between black and white women intellectuals, academics and activists, became evident at the 'Women and Gender in Southern Africa Conference' held in 1991 at the University of Natal. This conference and its sequel (in terms of race relations) the 'Women in Africa and the African Diaspora: Bridges Across Activism and the Academia' conference in Nsukka, Nigeria in 1992, have been well documented (Bonnin et al 1991; Bazilli 1991; Funani 1991, 1992; 1991; Lund 1991) and will not be

repeated here. Suffice to note a couple of similarities and differences with the conferences mentioned above.

The 'Women and Gender in Southern Africa Conference' in Durban was motivated by intellectuals who were most eager to validate feminist research in the South African academy, and was held at an academic institution (Hassim & Walker 1992). As with the 'Research Utilization Seminar', in order to obtain legitimate status (and funding), the conference had been sanctioned by the ANC (Bonnin et al 1991). De la Rey (1997: 6) notes that the tensions between black and white women which had been simmering for years

first became public when black feminists interrupted the proceedings of the Women and Gender in Southern Africa Conference in January 1991, to note the concerns about the dominance of white women's voices. It was a landmark event in many respects, some unintended and unplanned by the conference organising committee.<sup>60</sup>

---

<sup>60</sup> Shortly after the conference de la Rey joined the editorial collective of *Agenda* and has published in it regularly. *Agenda's* sustained interest in African feminisms has provided an interesting reflection of how the discourse of the debate has shifted. De la Rey has played a significant role in shaping the debate from one of academics and activists (1991) to race and representation (1992), and Sunde & Bozalek's '(Re)searching difference' in 1993. In 1997 de la Rey edited the issue on *Race, Identity and Difference* (1997) in which post-structuralist and post-modern approaches dominated, as in Robinson's 'White women researching/representing other'. But *Difference* and/or *other* has not proved sufficient explanation for hostility. In 1997 De la Rey shifted the debate by positing the need to problematise 'difference', arguing that "to incorporate" 'race' and 'racism' under the label 'difference' is an example of the risk of invisibility" (de la Rey 1997: 9). Although the theory has shifted, the sub-text and underlying emotions of anger and resentment have not. As editor of the 1997 issue, de la Rey pondered white women's defensiveness and the ongoing problem of racism. She requested an article from Jane Bennett and Michelle Friedman to explore questions including 'Why do white women get so defensive when faced with black women's challenges?' (1997: 49-55), and prove her point. Furthermore de la Rey's believes her own experiences demonstrate to her that racism is alive and well and

*Agenda* has reflected the changing nature of the racism debate over ten years, but it remains unresolved (Agenda 2001). Positions on feminism and what it meant were not consistent, neither among white or black, academic or activist women within the country, nor among the many ANC women scattered in exile, so that there was little mutual understanding of what a feminist research conference might entail (Nhlapo 1985; Shope 1985; Ginwala 1986; Bazilli 1991).

The primary concerns of African feminists at the conference were those of representation and exploitation (Funani 1992). There were accusations about white women's intentions and research methodologies. There was a call that white women should not do research about black women (Funani 1992: 63).<sup>61</sup> The issues raised in Durban were about relationships and logistics rather than research methodology and content (Bazilli 1991: 44). What was not forthcoming was a creative response to address the strong emotions expressed. Developing such a response may have provided a hallmark for feminist interaction. Instead accusations, defensiveness and rationalising followed in print (Bonnin et al 1991; Hassim & Walker 1992; Robinson 1993). Substantive issues, such as research methods and content and how these should be done and used to the benefit of women, were largely lost in the hostilities that ensued.

Since the initial qualitative energy studies were done by white women about black women, it is worth exploring what these (representation and exploitation) mean in the context of feminist research. Is it possible to speak of, or practise, non-exploitative research in terms of a feminist methodology? What qualifies as feminist methodology? Who can represent whom without exploiting them? What of the concepts of 'empowerment' and 'participation' which are advocated as ways to counter traditional, exploitative research methodologies?

---

living in feminist forums and that little attempt has been made to address the problem. She deliberately makes no suggestion as to how this should be done.

<sup>61</sup> Moore (1988:6) offers a counter-argument to this, without losing sight of the value of experience.

## Feminist research: on, by, about and for women

Since there was no agreed definition of feminism or feminist methodology, we look briefly at the international arena where substantial literature had been produced. Thirty years ago the development of a feminist methodology seemed a relatively simple task. Before post-modernism, the defining characteristic of feminist research was its political project to change conditions to the benefit of women (Stanley & Wise 1993: 50). Feminists argued that for too long women as research subjects had been invisible or objectified, and they attempted to develop a research methodology which made women visible as agents. There was a spate of early feminist writers who embraced the endeavour of defining feminist research methodologies (Rosaldo & Lamphere 1974; Ehrlich 1976; Rich 1979; Bowles & Duelli-Klein 1980; Stanley & Wise 1983; hooks 1984).

Initially feminist research was defined primarily in opposition to masculine research which was in turn characterised by objectivity, and constructed through rational, scientific discourse which assumed neutrality; the language was often technical and/or obscure (Rich 1979<sup>62</sup>; Stanley & Wise 1983). Other characteristics of research which were thought to be masculine included quantitative methods which exploited statistics, methods which neglected or distorted women, and the production of ready generalisations from the experience of males which was considered the norm (Chetwynd 1975; Stanley & Wise 1983).

Feminist research, on the other hand, was thought to be characterised by qualitative methods, a valuing of experience, and appreciation of the subject beyond her research usefulness (Stanley & Wise 1983). 'Feminist research was not just research by women and *on* women, it was also deemed to be research *for* women' (Stanley & Wise 1993: 32 italics in the original). This was to signify the activist nature of the research: that it should be used by women to change their subordinate status. Research *on* women might indicate that the researcher was validating her research in academic papers and career path without cognisance of the researched, which was considered unsisterly. In

---

<sup>62</sup> Adrienne Rich (1979: 207) argues that 'objectivity' is a term that men have awarded to their own subjectivity: 'Masculine ideologies are the creation of masculine subjectivity; they are neither objective, nor value-free nor inclusively human'.



some expositions the preposition *for* was changed to research *about* women, indicating a further shift in feminist thinking. The researcher should put herself and her research at the service of the researched, who should not be exploited by her intervention (Bowles & Duelli-Klein 1980). In the 1980s it was the intention that the products of feminist research should be able to be used by women in order to formulate policies necessary for a feminist-friendly environment. Hassim, writing in South Africa, points out that this thinking is flawed because it assumes that the similarities between women over-ride the differences, which, she argues, 'is simply not the case' Hassim (1991: 9).

The purpose of feminist research (to change conditions to the benefit of women) might be advanced in several ways. One was by rendering women and women's experiences visible. This was a relatively successful project in the 1970s (Friedan 1963; Daly 1978; Barrett 1980). Another was in reclaiming the power of naming. Daly (1978) argued that women have had the power of naming taken from them<sup>63</sup> and are constrained accordingly. Parpart (1996) and Shrestha (1996) also describe the significance of the power to define, and it is notable that when women began to define their bodies and their experiences, a new epistemology began to emerge (Spender 1985).

Feminist methodology was also informed by a belief in the sharing of power and the inclusive ownership of information (Kleiber & Light 1993: 33). Reducing the distance between the researcher and the researched was one of the challenges posed by feminist methodology (Oakely 1981). Self-reflective and external critique enabled a growing understanding of the inherently unequal relations between researcher and researched, and an increasing interest from feminists in the notion of power (Gluck & Patai 1991). Power is an aspect of gender identity: contestation, negotiation and bargaining are often about definitions, interpretations and their material consequences (Moore 1994: 91-92). Carney and Watts (quoted in Moore 1994: 104) constantly emphasise that the struggle over access to economic (and social) resources is simultaneously a struggle over definitions and meanings. Conventionally power has been understood as generative (the power to –), or personal power which involves developing confidence and competence, and the ability to negotiate close relationships, or power to work collectively to have

---

<sup>63</sup> Said in *Orientalism* (1979) makes a point about the ability to name or define in a language which is not one's own, which is analogous with the feminists point that language is masculine and not their own.

maximum impact, or power *over* (for example gaining access to resources and decision making, an important consideration in development). Giddens (1991: 209-31), Bourdieu (1986), offer different theories of agency and perspectives on the problem of the place of the individual and/or subject within structures of power and domination. Ferguson (after Foucault),<sup>64</sup> writes of 'decentred power', power which is subjectless and embedded in discourse, institutions, actors and a flow of events (Nelson & Wright 1995: 10). What is of concern here is to flag the question of power in preparation for Chapter 8 when an attempt will be made to deconstruct the complexities of power relations as experienced in women's every day lives: as a relation as well as an instrument.

Until recently there were few studies in complicity outside of patriarchy. Shrestha (1996: 266-277) examines her complicity with the power of the development industry. She traces divisions and tensions created by development in Nepal after 1951 and her own collusion with things American and modern, and comments: 'how ironic that many volunteers, sent to promote American values and materialist development, were themselves yearning for reprieve from that very same material life in a culture that was described as backward and poverty-stricken'. James (1995), writing in South Africa, considers the nature of complicity in her study of woodfuel use. She reflects that not only women but children too collude to maintain the hierarchies of power in the household.

Concern about the nature of power in the research process (Gluck & Patai 1991) meant that international feminist methodology was also concerned with the nature of representation: who spoke for whom and with what authority. This is not a new question. Anthropologists have been reflecting (quite differently) on their position in relation to their research subjects for many years (Malinowski 1967; Rabinow 1977; Thorne 1978; Kuper quoted in Robinson 1993). It is a question which requires constant revisiting. Moore (1994: 9) asks: 'Who and what do we represent when we speak out about our politics and how do we negotiate the inevitable problem in the social sciences of having to speak about people whilst trying not to speak for them?'

The problem of representation obtains an added urgency in societies such as South Africa's where, as part of the liberation movement, the principle of equity has

---

<sup>64</sup> See McNay (1992) for a feminist analysis of Foucault.

substantial purchase, as does the belief that the marginalised and voiceless should be given an opportunity to speak. Since the new democratic dispensation came into being in 1994, formal platforms such as the Women's Hearings of the Truth and Reconciliation Commission, the Poverty Hearings of 1999 and the Domestic Workers Hearings of 2000, have been provided to permit and encourage the marginalised to speak for themselves.<sup>65</sup> However in the early 1990s such channels were not readily available unless it were through the writing of researchers, who were, undeniably, predominantly white.

Reciprocity has been suggested as key to resolving the question of representation and conducting less exploitative research, but is it possible? (Oakley 1981). Are there ways of giving back to the researched? Of diminishing the power and reciprocating the favours? Is there a difference between *exploitative* and the kinder word, *extractive*, research? Since the purpose of research is to draw out, understand, deduce, examine and analyse, is it possible to do research which is not extractive or exploitative? Feminists, struggling to free themselves of the traditional notions of male power 'over' women, sought not to replicate these relations of domination in their research. They explored the possibilities of research being not just not exploitative, but rather to subvert the relations by facilitating the research subjects' participation in the research endeavour. This process it was believed, could be positively 'empowering'. This shift entailed the development of a research methodology which was not exploitative, did not objectify the research subject and to 'gave back' to the researched in some way. Empowerment and participation, closely linked concepts with their roots in liberation theory, and associated with progressive development thinking, was also part of feminist methodology.

### **Empowerment and participation**

Some three decades ago when people began to speak of empowerment and participation, it was in the context of building social transformation through individual conscientisation, collective reflection and action by and for grassroots communities. In particular it was Freire's (1972) approach to adult education that had been popularised.

---

<sup>65</sup> Of course these have not been accessible to all, nor is an assessment of how far these hearings have translated into policy or action considered here.

This entailed the development of a critical consciousness in order to enable people to understand their situation and take control of their lives. They would do this by articulating their needs ('demands' was the word more often used) and mobilising as a group. The approach was premised in a belief that once conscientised, people have the ability to solve their own problems (Walters 1991). The method held appeal for feminists already steeped in consciousness raising practices, upholding the notion of 'the personal is political' and mobilising accordingly (Stanley & Wise 1983). The notion of empowerment entered the development area via specialists working on similar approaches (Chambers 1983) and some feminists who attempted to transfer the approach into projects (Tinker 1982, 1992, Chapter 1). As a means to effect change, the empowerment approach had wide currency in South Africa: 'The "Freirian method" aimed to convince people that they are active agents of history... [and] seemed to offer a way to break the psychological chains that prevent poor people from assuming control of their own destiny' (Manzo 1996: 247).

Translating activism into research methodology has its pitfalls. Although the end goals of both may be improved conditions, the justifications for each are different. Activists claim the right of intervention for outside agents and facilitators<sup>66</sup> to conscientise and mobilise communities. Traditionally researchers claimed no such right, in fact objective or neutral research denied that the research endeavour had any interventionist consequence at all. Becoming a (feminist), activist researcher requires acknowledging that all research involves intervention and thinking through many ethical questions, not the least of which are: by what right does a researcher decide who should be conscientised and mobilised? Does being trained as a researcher provide the skills necessary to conscientise/ mobilise/ empower others? Other considerations might include questions about ownership and decision-making: has the research process been instigated through top-down or bottom-up activities, and what difference does this make? Are the researched willing and able to be 'empowered'? To what extent is the research useful and relevant and who decides this? (Holland with Blackburn 1998).

In addition to questions of principle there are the practicalities of the research process to deal with: choosing the topic and formulating the hypotheses, designing the information

---

<sup>66</sup> Hope and Timmel (1984) describe the roles of these specially trained educators and animators.

gathering, collecting the data, selecting the information, interpreting the results, presenting and disseminating the results (Villareal 1992). If the purpose is to empower the researched, logic suggests that they should be involved from the beginning, so that the prior questions is: Who commissioned the research? Whose idea was it? Ideally 'the community' or representatives of the community should request the research, but it is rare that poor communities are in a position to know what research is possible or needed, and even if they could, they are unlikely to have the resources to commission it. So in reality the process is usually initiated from the top down rather than the bottom up. Once the researcher has made the decision about the topic, at which of the research steps is it still possible for the community to own/ or shape/ or influence the research, or is it too late? Despite many years of debate and contestation, agreement among researchers has not been reached (Chambers 1983, 1998; Long & Long 1992). An exploration in the following chapter of the first qualitative energy researchers' understanding of what they were doing, reveals but a fraction of the differences which pertain. Whether and what empowerment is possible is contingent upon one's understanding of empowerment, and there are many different interpretations.

De Vries (1992) argues that empowerment is possible and can lie in the research process, that by doing research with people, through the interaction and during the fieldwork process, this is when empowerment is possible, and not, as others claim, in 'giving people a voice', or through representations in the text. The conclusions in Long and Long (1992) are that empowerment should work through the process and the product, taking the form of enabling the people (who are the objects of research) to help to choose the methods, decide what should be focused on and assist in the interpretation of the results and use them according to their needs. For Stanley and Wise (1993: 33), research projects where empowerment is an objective should interpret the results for the researched, and present them in such a way that the results can be used to make better decisions, or for advocacy, that is, in a way that the research serves the researched rather than the researchers. In such a project there is a conscious and deliberate sharing of skills, the recognition that the researched have power and knowledge that the researchers need, and the acceptance of feminist principles by everyone involved. However they cite only one project in which this total process has been observed (Stanley & Wise 1993: 33).



Perhaps it is just that empowerment has become an overused and diluted term. Whereas it used to mean the information, understanding and will necessary to alter the structures of power that dominate one, its overuse in mainstream development discourse has distorted its original meaning and endowed it with 'unlimited potential' (Visvanathan 1997: 26 ) but little realised potential or substance. Sen and Grown, (1988) whose work popularised the concept of empowerment, complain that the widespread use of this concept has led to it being blurred and ineffectual. Sen and Batliwala (2000: 20) point out that empowerment is about 'the individual women's capability to take charge of her life and her environment through her own greater sense of self-worth'. In South Africa empowerment has been diluted to mean learning to fit yourself into the system and carve a profit-making niche for yourself by learning a skill such as bookkeeping, or learning to read and write, or initiating an income generating activity, or buying a particular brand of maize-meal, or attending a community meeting and speaking during it. In the energy sector it can also mean learning to use a solar cooker (Wentzel 2000).

In the energy sector 'empowering' women to participate in woodlot projects means providing them with the opportunity to participate: inviting them to the meetings, allowing them to bring their children or even providing child-care facilities, scheduling the meetings at times when women are able to attend etc (Townsend 1995). It does not foresee women 'empowered' to persuade men to run the woodlots, cut the wood and bring it home to use for cooking. Moser (1993: 4, Chapter 2) suggests that to use empowerment correctly is too threatening for most, and this accounts for why the WID approach is more popular than GAD:

Gender planning with its fundamental goal of emancipation, is by definition a more 'confrontational' approach. Based on the premise that the major issue is one of subordination and inequality, its purpose is that women through empowerment achieve equality and equity with men in society.

Participatory research combines techniques of adult education with social science research, political activism, popular theatre and local grassroots initiatives. These have been systematised in an approach which Manzo (1996: 28-9) claims displays a counter modernist attitude in its rejection of the West's model of achievement. Advocates of this approach claim that the methods question the divisions between research and practice, subject and object, and inside/outside so central to conventional conceptions of

development (Manzo 1996: 28-9; Crawford Cousins 1998). Ideally participatory research aims at a partnership between researchers and active subjects; more equal power relations are sought, and the process aims at reciprocity (or empowerment) through a two-way sharing of expert skills and local knowledge. The three researchers in the following chapter found it difficult to establish more equal relations when they were so obviously privileged.

Participation, like empowerment, has accumulated many meanings. Participation, is however a weaker concept because is potentially compatible with conflicting ends as will be seen (Sen & Batliwala 2000: 20). If it were successful at challenging hierarchical notions of development, this would be a powerful tool indeed, but since there have been numerous attempts at participatory research and little revolution in development, it is worth considering its limitations. Who participates and why they participate needs to be analysed, as does the assumption that participants engage on an equal basis. The opportunity to participate does not guarantee that marginalised people are heard, less that their message is acted upon. Referring to participants in the research process as 'stakeholders' has been criticised as one of the ways in which differences of status, power, gender, access to resources, language skills, ability to make decisions and a host of other variables, may be masked (James 1995). Moreover, participation in the research process can mean co-option into a set of relations rather than the transformation of those (Nelson & Wright 1995: 1). If it is to be more than a palliative, then participatory research should involve structural shifts in the longer term (Nelson & Wright 1995: 1). The research design should distinguish between participation as a means to accomplish the project and attain buy-in from the participants, and participation as an end to a group setting up a process to control its own development (Nelson & Wright 1995: 1). The former process appears to be the more common one.

It could be argued that there have been at least two national participatory research projects in South Africa in the last ten years which have attempted both but accomplished only the buy-in. The one of interest here is the development of the Women's Charter.<sup>67</sup> Pregs Govender, Project Manager of the Women's Coalition

---

<sup>67</sup> The second large-scale participatory process was the participatory poverty assessment (PPA) in South Africa in 1995/6, undertaken for the Poverty and Inequality Report (Attwood & May 1998). Contrary to the aims of this project, poverty levels in South Africa



Charter Campaign which was launched 8 March 1993, declared that the project included the 'largest participatory research process of its kind in the world' (Govender 1993: 43). The research process included a hundred field workers conducting discussions over a period of three months with groups of women all over the country in order to hear the changes these women would like to see in a new South Africa (Govender 1993: 43). Those who had participated in women's organisations were well positioned to contribute to the Charter. The Western Cape Alliance reported by Gertrude Fester (1992: 29-30), had inputs from women who appear in this dissertation, strengthening the argument that women and energy debates had their origin in women's issues rather than energy research: Pregs Govender, Phumzile Ngcuka, Harriet Ngubane and Susan Shabangu. Fester, Ngcuka and Shabangu appear in important positions in the energy sector after 1994. Ngubane was one of the influences in Fiona Ross' student life (Chapter 5). The Women's Charter was taken to Codesa, the negotiating forum for a new constitution and women's rights have been institutionalised in the Commission for Gender Equity and the Bill of Rights. Despite the process, and all the institutions known as the 'gender machinery' (Budlender 1996: 11) in South Africa, increasing violence against women including murder and rape, make it difficult for most women in South Africa to move around freely, or feel safe or liberated, or believe that their demands were heard at all (Bennett 2001).

The fact is that research subjects seldom present themselves at the door of the researcher requesting participation in research projects; they are rarely self-selected from the beginning. Usually, (as was the case in all three energy studies in Chapter 5), groups of people are sought out, or fortuitously come to the notice of the researcher, and develop into 'research participants' with or without reward or reciprocity for their participation. Feminist researcher Daphne Patai (1991) explains her fairly typical case: the employee of friends of hers in Brazil was approached to tell her story, and when she agreed the woman became hostess to the researcher, offering her tea and cake in her (the research subject's) home (Patai 1991: 140). Although one could argue that a subtle shift in power

---

are thought to have deepened with growing levels of unemployment since 1994 (Census 96), so that this exercise cannot be said to have set up processes 'to enable the poor to control their own development' (Nelson & Wright 1995). Other participatory approaches to development have been tried with varying success (Lyons et al 2000).

relations took place for the duration of the narrative, as the researcher became the guest of, and obliged to, the narrator, this shift is so transient that it becomes spurious in the larger scale of things. Patai questions what reciprocity could mean under these circumstances, when even if she had sent the story teller a copy of the book produced, the Brazilian woman was illiterate, so she, like many other oral historians, has limited means of satisfaction or affirmation (Patai 1991). So that the reasons for preferring participatory research over once-off quantitative questionnaires, as empathetic and less exploitative are not necessarily the case. Whether a more prolonged intervention is less exploitative than a short one, or whether an in-depth interview has more reciprocal value than, say, a market research survey, is contingent upon the purpose of the research. Clearly mass questionnaires which produce a campaign for more trains at rush hour, or a better time slot for a popular television soap opera, serve their purpose.

Thus despite the best intentions and the considerable effort and resources put into exercises such as Patai's book, the Women's Charter and the participatory poverty assessment, it would appear that neither the intention of empowerment nor participation in research can ensure better conditions for the poor. Neither can feminist methodology, however rigorously employed, claim to have addressed the structural inequalities in the ways it proposed thirty years ago.<sup>68</sup> In a similar vein to the emphasis in the 'Utilization of Research Seminar' above, some feminists have shifted their focus to research results:

Consultation with, and accountability to, 'the community' that the work is meant to benefit does not mean having to get permission to do it: it means acknowledging that we can do it because of our privilege and [being responsible for] what we do with that knowledge. (Bazilli 1991: 49)

For others engaging in feminist theory, the shifts have been to examining race, ethnicity, identity and othering from a variety of post-structuralist and post-modern positions.

---

<sup>68</sup> Perhaps the best that can be done is to find comfort in Long's note in the Preface: 'We were led to realise the central importance of treating the researcher him- or herself as an active social agent who struggles to understand social processes through entering the life-worlds of local actors who, in turn, actively shape the researcher's own fieldwork strategies, thus moulding the contours and outcomes of the research process itself' (Long & Long 1992).

## Ethical feminist research

If empowering women through the research process is difficult or unlikely, does it mean that all research is exploitative and/or unethical? Patai (1991: 137) explores the question from a number of angles which are frequently problematic: raising expectations, creating dependency, feigned 'chumminess' (Patai 1991: 149), or in Patai's own experience becoming privy to intimate details in some of the lives of sixty women whom she interviewed in Brazil.<sup>69</sup> She has a simple answer to the question: 'Is ethical research possible?' It is 'No.' Although she is referring to research done by United States women about third world women, she makes it clear that she is speaking about the inequalities and hierarchies between privileged and poor women analogous to those that pertain in South Africa. Nor does she fail to see the complexities in the interpretation of feminist research method and she raises these contrasts. Patai cites Marjorie Mbilinyi's understanding of 'consciousness raising' as an explicit goal of her (Mbilinyi's) project in sharp opposition to Marie-Francoise Chanfrault-Duchet's view that such political activity (as Mbilinyi's) constitutes 'savage social therapy' (Patai 1991: 148).

A further point raised in Patai's article, and not often dealt with, is the unrealistic expectation that the researched will be as enthusiastic and committed to the research as the researcher (Patai 1991: 147). Although the researched may have no objection to being interviewed or 'telling their story' they may equally have no desire to be involved in research design, validating data collection or doing analysis. Shah (1995) points out that participatory methods *per se* are not sufficient for sustaining interest in the research process or participation in the development process. Participants have been known to drop out of research projects, or, as Liz Kennedy concedes (quoted in Patai 1991: 147), be indifferent to follow up and continued engagement: the researcher's passion and interest is not theirs.

---

<sup>69</sup> During which time she became sensitive to the material inequalities that divided her from her interviewees and has published a series of articles critical of this hierarchical relationship. She nonetheless completed her project (published a book on the women's lives).

Patai's conclusions are not new: firstly she notes that researchers and the researched are not equal, hierarchical relations of power and privilege exist and secondly that no amount of 'positioning' or apologetic guilt can change these structural imbalances. She bemoans the fact that 'in the end, even 'feminist' research too easily tends to reproduce the very inequalities and hierarchies it seeks to reveal' (Patai 1991: 149) and notes that 'the world will not get better because we have sensitively apologised for privilege; nor if, from the comfortable heights of the academy, we advertise our identification with the oppressed or compete for distinction as members of this or that oppressed group'. Indeed the only justification she offers is that one cannot do ethical research in an unethical world; that major structural changes would have to be made, and these changes will be achieved through political action – and implicitly advocates this. Finally an aspect of empowerment seldom raised and discussed in the literature is the perspective of the researched – they are bound to have feelings about the researcher, theories about the research itself and whether they have been empowered. Stanley and Wise (1993: 160) point out how rarely this is a consideration in the research report. The researchers who put women at the centre of their studies of energy use experienced these dilemmas and dealt with them in different ways.

### **In summary**

The manner and conditions under which energy research was conducted in the apartheid years has shaped south African society and left considerable blots on the landscape, both physically, for example the Koeberg nuclear power station in the Western Cape, and subjectively, with regard to the hardships of those without electricity in a country with excess generation capacity. Although during the apartheid years alternative, politically progressive researchers concerned themselves with assessing wood supplies for the poor, women as users remained generally anonymous if not invisible. The answer to the question 'why women and energy?' lies in acknowledging that the absence of women from the sector is due at least in part to their subordinate position in society, to their inferior education and limited ability to contribute to technological progress. Their skills as social scientists were neither used nor recognised in the period under review. Only a few women contributed to technological energy research and those who did were not necessarily feminists, nor were politically progressive men, gender sensitive.



The introduction of household surveys following the SALDRU study, marked a step toward integrating social research with technological. It was politically motivated by the need to serve 'the poor', and the energy sector papers did not distinguish between members of the household, nor was data disaggregated by gender. Researchers made a comment or two in passing that the connections between women, gender and energy should be further investigated (Christie 1984; Eberhard & van Horen 1995: 202), but declined to do so themselves. In short the new interest in household energy was *not* an indication of attention to women and or gender issues in all domestic energy studies and projects, and the terms 'the poor', 'household' and 'women' should not be conflated (James 1993; Ross 1993; Annecke 1994).

Other pertinent issues raised at time concerned the purpose of research, and which methodologies were most appropriate in order for research results to be best used to advance the cause of the anti-apartheid movement, or more locally, could be put at the disposal of those who needed them. A variety of media and conferences were used to debate these issues. Funding for research was significant in terms of who set research agendas, and the anomaly of state funding for alternative research was noted. In addition mostly men (Christie 1979/84; Eberhard 1984; Gandar 1985; Basson 1988) were responsible for bringing the energy use of the poor to the attention of the government, and producing shifts in thinking which contributed to the conditions in the 1990s which allowed women, who called themselves feminists, to begin to emerge as researchers interested specifically in women and gender issues in the energy sector.

Since there was no gender disaggregation in the analysis of energy data, it would be difficult to evaluate empirically whether politically progressive research met the needs of men and women equally well. The idea that local people should participate in research projects had begun to take hold, but what this meant and entailed was disparately interpreted. While Gandar (1985) tried to work with 'people' (we assume they were women) to design stoves, Dickson discovered that the 'people' (we assume they were women) he was working with wanted protected, clean water rather than solar technology. Both researchers acknowledged limited success in their efforts to introduce solutions and alleviate the wood shortages that were their concern. These researchers worked within political frameworks, which, while they acknowledged structural injustices to the poor, neglected the same as they applied to women. The ideas of

empowerment and participation were being debated by progressive researchers (Hofmeyer & Muller 1988) but had not yet reached the energy sector.

Women's research during the late 1980s included research about women. There was no common understanding of feminism or feminist research (although women and gender studies departments were established at two universities in the late '80s). Given the history of antagonism between women of different race groups in South Africa and the considerable discrepancies in access to resources from water and electricity to the vote, it was not surprising that women did not act in concert against patriarchy or other systematic forms of oppression. Although wary of being called feminists, women did organise around issues which affected them and in support of the national liberation movement. The 1980s saw an increasing volume of documentation and research into women's issues, culminating in a series of conferences about women and gender, in particular the 'Women and Gender in Southern Africa Conference' in 1991.

As with the 'Research Utilization Seminar', who was invited, who participated, who was heard and the relations between speakers and organisers was considered important. Whereas collaborative work was generally celebrated in the liberation movement, the individualism at the Women and Gender conference was striking. Since the primary concerns of African feminists, womanists and Blackwomen, were those of representation and exploitation, and the initial qualitative energy studies were done by white women about black women, these issues are explored in the context of international understandings of feminist research. It was not just women studying women but white women studying black women which was at issue here, but also the struggle against the racist assumptions which underlie much anthropological (and development) theorising and writing (Moore 1988: 8).

Questions are raised about the possibility of practising non-exploitative research in terms of a feminist methodology. As explained above, the concern with research ethics and the usefulness of research results is not uniquely feminist. The determination to use research to improve the conditions of women is, and it has been suggested that this determination to make a difference to women's lives should be what continues to drive feminist research. Shamim Meer, in her recent writing represents a major shift in thinking from the days of the Women and Gender conference. She suggests that:

The key issue for academics should not be who writes –ie whether whites should write about black experiences- but from what perspective and to promote whose interests. The key issue for activists should be how to build strong mass movements to represent the interests of the working class and poor in this country in order to ensure that the state does not back down on their interests in favour of more powerful social forces of capital and landowners. (Meer 1997: 14)

The following chapter looks at how feminists conducted research about women in the energy sector.



## CHAPTER 5

### **The emergence of women-centred energy research – the first three theses**

There were women in South Africa doing energy research prior to 1990, but there were only a few, and those that there were, were active in technological research such as the investigation of wind power (Diab 1988), or alongside men in the laboratory, testing fuel efficient stoves (Baldwin 1988, see Chapter 3). This was alternative research in that it did not serve the mainstream interests of the development of the fossil fuels and electricity sectors but Baldwin's was the only study which showed any interest in the social use of the technology under investigation. These were not women committed to the feminist principle of conducting research to change and benefit the conditions of women.

Suddenly, or at least it appeared to be suddenly, after 1990, a different kind of energy researcher doing a different kind of energy research emerged. Suddenly there were three women who put women at the centre of their investigations, and were conducting qualitative, energy-use research at household level in South Africa. That is the researchers were exploring the conditions and strategies of women rather than testing solutions. They were interested in women as energy users rather than energy use. The reason for their different focus was simple: they came from outside the small, technology-orientated energy sector, and had strong agendas to understand the conditions of poor women and to do research that would benefit the lives of these women. These researchers had no product to test, no technology to develop. What they were interested in was to explore how women lived their everyday lives and managed their resources. Energy was just one of these.

The three studies were important in that they broke the mould of quantitative and technological research being done in energy in South Africa. The women-centred energy studies caught even progressive male researchers by surprise.<sup>70</sup> Although

---

<sup>70</sup> EDRC was quick to recognise this innovative research and all three women have since worked for EDRC doing teaching and/or research.

progressive energy researchers such as Gandar and Eberhard had begun doing household surveys at the time of the SALDRU study in 1982 with a view to improving the majority of South African's access to energy sources (Eberhard & Gandar 1984), and Gandar had been attempting to work with women in rural areas to improve wood use through more efficient stoves (Chapter 2), little work had been done in urban areas and men had neither noticed nor accounted for the extensive use of paraffin and/or Liquid Petroleum Gas (LPGas) in poor urban areas. For this study, which explores the invisibility of women and gender issues from energy and research, these three theses play a significant role in signalling the emergence of a small but significant women/gender focus in the sector.

Historically these women and their studies were products of the ferment of the time. How conscious the women were of this, how clearly they identified themselves as feminists, and what difference this made to the way they conducted research and used the results, constitutes the substance of this chapter. The chapter explores the extent to which these three women were influenced by the feminist research issues raised in Chapter 4. Issues of resources, representation and exploitation that were pertinent inside South Africa as well as those discussed by feminists internationally at the time: reciprocity, whether the research was done *by, on, for, about* or *with* women; the sharing of power and inclusive ownership of information; the extent to which the researched spoke for themselves, the extent of participation of the researched and the possibilities of empowerment.

This chapter provides further evidence for the claim in Chapter 1 that in South Africa the avenue for inserting women and gender into the energy sector was that of feminist research rather than women in development or energy for development, and that this perspective produced a different approach to energy to that of WID or development economists. Other issues this chapter will explore are whether the differences in methodology, content and interpretation which the women introduced, produced different kinds of research or research results to those produced by men, whether these proved more or less acceptable to the research subjects or the peer research community, and, perhaps most difficult to assess, whether their research 'made a difference'.

At the time of the field studies, the three women researchers had not met each other and they were unaware of each other's work while it was in progress. They approached their studies according to the different disciplines in which they had been trained. Wendy

Annecke's<sup>71</sup> masters was registered in Women's Studies, Bronwyn James' in Social Geography and Fiona Ross' in Anthropology. Within five years there were three masters theses completed, and a host of other women-centred energy activities initiated. Annecke submitted the first in 1992, the second was completed by Ross in 1993 and the third by James in 1995. Each of the women submitted a report to her funder prior to completing her thesis; these reports are shorter and more technical documents, focusing on energy consumption, and containing limited contextual material and theory. Since an assessment of the degree to which these could be called feminist research projects is to be made, the theoretical frameworks, methodologies, analyses and reflections in the theses render them more interesting, and they are used in preference to the reports. Supplementary material was sought from interviews conducted with the authors. Since the researchers were examining how poor women managed their everyday lives, they explored the everyday 'fuels of the poor': wood, paraffin and LPGas, used in various combinations and proportions. Paraffin and candles were the dominant domestic energy source supplemented by wood, LPGas, car batteries and dry cell batteries in the urban area where Annecke was working. Ross monitored the use of predominantly LPGas, then wood, paraffin and batteries in a peri-urban area. James, working in a rural area, investigated primarily wood use and resource management and was surprised to find a fairly pervasive use of LPGas too.

---

<sup>71</sup> The manner in which I have referred to my own work in this chapter has changed with successive drafts. In response to scathing comments of a reader when I used the first person and criticised myself, I changed to the third person. I have since received equally scathing comments for doing so. In the end I went with the third person because it gives me some distance from the person I was in the 1990s. Similarly Bronwyn James and Fiona Ross think and do things differently in the 2000s to the way they did in the 1990s. Fiona Ross and Elizabeth Cecelski have reminded me that I have judged all our work with hindsight and tools not available to us at the time. They have suggested that a greater emphasis on the changes in our work that have occurred since the first women and energy studies were done, would have been appropriate. I have retained the use of the first person when commenting from my current position.

## Feminists all?

The burning issues at the 'Women and Gender in Southern Africa Conference' in Chapter 4 were representation, exploitation and resources. The energy studies were an example of what black women were arguing against: three white women 'doing research on black women' and acquiring degrees in the process. The women were not insensitive to their position. All three were politically and emotionally involved in their work: a criterion for feminist research (Stanley & Wise 1983: 50), but not uniquely so. They were angry about the material conditions of the poor and in particular about the women who were 'at the bottom of the pile' during the apartheid period (Interviews with James, Ross, 1999). They believed these were under-reported and neglected by the local authorities and the state, and that their work could contribute to raising awareness about these conditions (Interviews with James, Ross, 1999). This position was clearly articulated, and shaped the manner in which the projects were designed, conducted and documented. James expressed it as '... an inherent sense of justice, and it was clear that so much in the society was unjust' (Interview with James, 1999). As was the case with many other researchers (Chapter 4) the women believed that they could use their skills and resources 'to make a difference'. They imagined this difference would be a small one, a contribution to improving the lot of women over time, and that this would, in some way, reciprocate their subjects for the time and information which allowed them to do the research for their degrees.

Annecke and James are self-defined feminists and consciously put women at the centre of their studies while maintaining a strong perspective of gender relations and the particularities of context and location. Ross's previous work had been explicitly located in a feminist perspective, but she was conscious of the way in which some feminist theory seemed to decontextualise women from societal relations, and wanted to be careful that her study did not do the same (Personal communication Ross, 2001). All three were aware of the 'Women and Gender in Southern Africa Conference' when it was held in Durban, and the issues raised (Interviews with James, Ross, 1999). Ross was not at the conference, but a close friend reported the flare-up to her. She was aware of the feminist debates about who should speak for whom through the anthropology department at the University of Cape Town where she was a student, but she had reasons for believing what she was doing was justifiable. 'Look,' she said, 'It's a difficult one. There's a gap and I'm filling it. I have the skills and I am documenting

things that no-one else is writing about. Critiques of what I have written, and alternatives are welcome...' (Interview with Ross, 1999).

James was well informed about similarly-charged international debates and was 'enthralled that they had come to South Africa' but was not present to witness the actual confrontations (Interview with James, 1999). She did not take the conference message any more or less seriously than her own reading and conscience when she was doing her fieldwork at Mabibi. Annecke was the only one actually present. She remembered being taken completely by surprise at the vehemence of the plenary session where to hostility broke. She felt caught between the activist and academic debate, especially when it became clear that activist meant black and academic meant white. She, and a number of other white women, who were not at the university but from NGOs, did not identify with the academic label. However awareness of black women's demands that they desist from studying black women was not sufficient to deter these white women, and is returned to at the end of the chapter.

### **Representivity and access to resources**

Part of the anger about white women researchers was that they had access to resources that black women did not have. Interestingly and ironically, the women were all funded by the National Energy Council (NEC), the conservative, all-engineer, research arm of the Department of Mineral and Energy Affairs, who also funded the small, progressive EDRC. Annecke and James had not previously heard of the energy sector or the NEC. The reason each was funded was because the NEC was on the look-out for and receptive to such work, and the reasons they were receptive were two-fold. The first reason was that by 1989 Basson's new division of the NEC, 'Energy for Developing Areas', was beginning to take socio-economic issues more seriously. Apart from funding the EDRC (who were doing household surveys of electricity use in urban areas) it began to make its own forays into attempting to understand these dynamics in energy use (Golding & Heron 1991; Swanepoel & de Beer 1992). These are discussed below. Secondly an engineer from EDRC and ERI (Energy Research Institute) at the University of Cape Town, relocated to Pretoria to take up a position in the NEC. At the University of Cape Town he had conducted household surveys on energy use and had had contact with the Department of Anthropology. This was Reinhold Viljoen who, unbeknown to

the three women at the time, was responsible for championing their women-focused projects in the NEC.

Viljoen is an engineer with a planning degree who had been interested in sun studies and thermal efficiency during his training in the 1970s when he had worked with progressive architects and NGOs on a low-cost housing development scheme. There he had been responsible for the re-orientation of houses and solar applications in one of the earliest efforts to electrify clinics and stores in rural areas (Interview with Viljoen, 1999). Thus he too came into energy for development through renewables. Thereafter he travelled internationally where he 'came into contact with women's issues' (Interview with Viljoen, 1999). After his return to South Africa he registered in 1987 at ERI to read for an MSc in energy studies. Viljoen's thesis (1989) examined energy consumption in a winter rainfall area. He proposed a model for energy transition which became controversial in that it suggests that the transition occurs in a smooth movement up a fuel ladder from biomass to electricity. The rate of transition was dependent on levels of income, education and other specified and unspecified variables (Viljoen 1989). One of the common features of the women's studies was the finding that energy transition involves an uneven series of fuel switches and multiple fuel use, which may diminish over time if electricity is available and affordable. Ross produced a severe critique of this theory (Ross 1994).

In 1990 Viljoen moved to the National Energy Council in Pretoria as Chief Energy Specialist and it was in this capacity that he influenced the design and funding of the three theses. Annecke and Viljoen met in 1990 when she was working in Canaan, a poor informal settlement and he was in Durban on NEC business. He was intrigued by her focus on women as managers of domestic fuel. Immediately recognising the novelty of what she was trying to do in measuring expenditure on paraffin, he suggested she apply to the NEC for a small grant to write up her work as a thesis. Her reservations about funding from a parastatal were countered by Viljoen. He assured her that progressive people such as Eberhard (whom she had heard of only through the End Conscription Campaign<sup>72</sup> channels) had substantial funding from the NEC and that it was essential that work such as hers be used to assist shifts that were happening in the direction of

---

<sup>72</sup> An organisation to end conscription into the apartheid army.

energy research for development. The information had been already gathered but Annecke used the grant of R5000 from the NEC to make a video of the people's story which was what they wanted. She believed this might be a gesture of reciprocity between the research and the community. Annecke reflected on the NEC's interest in her work:

No such study of energy use patterns had been undertaken in South Africa and they were keen to use the small sample of ten case studies as a pilot. Until recently domestic energy debates in South Africa have been dominated by studies about large scale electrification schemes and biomass fuels. These studies have been done by white males who, on the whole, represent researchers and policy makers in South Africa often interviewing men as head of the household. (Annecke 1992: 24)

James was a post-graduate student in the Geography Department at the University of Natal in Durban. At the end of 1990, at her Department's suggestion, she attended a meeting of the Wind Energy Demonstration Project which had been initiated at a primary school in Mabibi in 1991 (Interview with James, 1999). She was young and idealistic and found the reality quite different to lectures she had attended about participation in development. The project was led by Dr Diab and funded by the NEC, Umgeni Water and the Rotarians. James recalled that she was uncomfortable with the arrival of Eskom and the way the community representatives from Mabibi were treated. Viljoen, who was the NEC representative, wanted a social impacts study done. As an honours student and against her better judgement, she administered a questionnaire he had drawn up (Interview with James, 1999). In doing so she encountered a variety of unrealistic expectations about what the project and the wind turbine would deliver, and her first proposal was to produce a document on information dissemination and participatory research. She had been impressed by Dianne Scott's work with a fishing community in Durban and influenced by Dr Jenny Robinson who, noticing her interest, had lent her readings on development and feminism. When her initial proposal was turned down she was under pressure to find a topic. She was offered some funding to do the research required by the NEC and felt obliged to accept it (Interview with James, 1999). Viljoen was quite clear that he wanted energy consumption data from the area in



which the turbine was to be established and she agreed to do this (Interview with James, 1999).

James thought she could use the project to further her own interests (which were the management of natural resources, specifically the harvesting of shell fish and indigenous plants) at the same time as looking at wood and other fuel use. Indeed her report to the DME in 1991 covered energy consumption patterns in Mabibi while her thesis in 1995 examined gender, development and environmental questions in Mabibi. The NEC funding amounted to R40,000 of which she was granted R11,000. From the beginning James was uneasy. She was driven by a feminist vision of better conditions for rural women and recognised that she was interested in energy only as a component of natural resource management and a way to work with women (Interview with James, 1999).

Ross was an anthropology student at the University of Cape Town. She remembers the campus as a highly political place with a strong women's movement. The Anthropology Department was fascinating with influential women anthropologists including Professor Harriet Ngubane and Dr Mamphela Ramphele who held very different opinions on women's issues (Interview with Ross, 1999). The small intakes of post-graduate students were treated to interesting tensions, dynamic gender politics and feminist theory as well as a substantial component of (under)development theory taught by Professor A Spiegel (Interview with Ross, 1999).

Ross had not yet written a proposal or found funding when Viljoen approached the Department of Anthropology at the University of Cape Town with a request to conduct a study 'to establish the impact of fuel on women' (Ross 1993: 6) in urban areas of Cape Town. Viljoen had already commissioned a larger scale follow up study to Annecke's pilot in Durban (Annecke 1992, 1994). Ross was in a better position than Annecke and James who were not aware of the EDRC or the NEC (or the difference between them), whereas Viljoen put Ross in touch with EDRC who were on the same campus, and his own thesis, the field work for which was done on the Cape Flats. She remembers 'there just wasn't any wasn't energy literature' and that she searched the mobility and migration studies with which she was familiar for clues (Interview with Ross, 1999). She read what she could find (which was considerably more than Annecke

and James), and spoke to Mark Gandar and Bill Cowan.<sup>73</sup> There was no women and energy literature in the EDRC library. She did not remember speaking to Eberhard, but when she visited EDRC (which she remembers as 'really small' in 1991). She found the engineers at EDRC 'different and exciting' and became engrossed in the survey-based project on energy provision in urban areas which Paul Theron was doing for his masters degree (Theron 1992) (Interview with Ross, 1999). Professor Pamela Reynolds, also of the Anthropology Department, suggested that she focused on energy and traced the social interaction and networks around energy use. Although she was not sure what this meant, she found it was what she did (Interview with Ross, 1999). The chance of living in a squatter camp<sup>74</sup> caught her imagination and she decided to do the project. She was supervised by Professor Spiegel 'who had twenty years of thinking about households behind him and was a meticulous and enthusiastic supervisor' (Interview with Ross, 1999).

Thus it was that, true to the accusations at the Women and Gender Conference (Funani 1992), the three white women, through various machinations and networks, received the information and funding that made their studies and the acquisition of their degrees possible. In the scale of the energy sector economy the funding was insignificant. This was marginal work but it was for a constituency of growing importance after 1990, and having three women working on it took care of some of the NEC's responsibilities (Interview with Viljoen, 1999).

An allegation about commissioned research is that the funder determines the course of the research (Hofmeyer & Muller 1988, see Chapter 3). Receiving funding was the deciding factor for James (Interview with James, 1999), while for Ross it was the (funded) chance of working in an squatter camp (Interview with Ross, 1999). Annecke's data collection was already concluded but the follow-up study she was commissioned to do (Annecke 1994) and the work of James and Ross were, to the extent described

---

<sup>73</sup> Cowan was the first sociologist to be appointed to EDRC in 1990. He is one of the longest standing members of EDRC and an expert on renewable technologies, particularly solar and photovoltaic systems.

<sup>74</sup> Ross chooses this designation as the correct official appellation for people living illegally on land they had commandeered.

below, dictated by the NEC. The NEC funded women's energy research on condition that it produced results which were useful to the Council, rather than the researchers or the research subjects. The money enabled each of the women to complete their degrees, and they bent their principles and well as manipulated their studies in ways which allowed them to conduct the research that wanted to, produce reports for the NEC, and complete their degrees.

The funding from the NEC ensured that they incorporated investigations into domestic energy use in their studies but they did this in ways that suited their own interests. Domestic energy provided a lens through which to view social relations and coping mechanisms (Annecke), social networks (Ross) and natural resource management (James). James's real interest, as has been explained, was gender, development and natural resource management. She understood fuel-wood collection to be a component of this, manoeuvred around the limitations of the NEC by producing a report (1992) for the NEC and used her time in Mabibi to investigate additional components which she included in her thesis (Interview with James 1999). Since Ross's study was, from the start, commissioned as a study of the impact of fuel-use on women, the energy component benefited significantly this focus and her academic training. At the same time she managed to experience life in a squatter camp, something she had long wanted to do, deepening her understanding of the anthropological concept of networks, and bring these to the attention of the energy sector (Interview with Ross, 1999). Thus although not immediately apparent, the researchers acted relatively autonomously, finding ways to satisfy the funder and themselves.

### **Feminist research methodology**

If the three women brought a different and feminist perspective to bear on their work, and if the ultimate purpose was contribute to changing the conditions of women, how was this evident in the way they proceeded to conduct their studies? Early, and somewhat simplistic thinking about feminist methodology, called for women to avoid the 'masculine' pitfalls of quantitative research which objectified the researched. In contrast it called for feminists to include qualitative research methods aimed at reducing the distance between researcher and researched, not to objectify research subjects, to do research *about, for or with* other women, rather than *on* them. Reciprocity was considered important as was the sharing of power and inclusive ownership of

information; the extent of participation of the researched and the possibilities of empowerment of research subjects through participation in the study. However, techniques for participation in development work and research, such as those of Chambers (1983) and Korten (1986) were little known and less practised in South Africa at the time. Allowing the research subjects to speak for themselves was a characteristic thought at the time to be feminist, as was respecting feelings and emotions (see Chapter 4 for a more detailed discussion). The women's theses are examined for evidence of these characteristics (albeit that they are not exclusive to feminism). The modernist and development paradigm is a limiting one, but it was the one available in the late 1980s and early 1990s when the women were doing their fieldwork. Bowles and Duelli-Klein (1980), Roberts (1981) and Stanley and Wise (1983) were new on shelves of newly established gender studies departments. By the time James wrote her dissertation in 1995, deconstructionism and post-modernism had taken hold; Kristeva (1980), Spivak (1988), Butler (1992) and Parpart (1993) were being read in feminist reading groups and used in theses such as James' (1995).

The three women were also concerned about content and the concept of gender, which they understood as a dynamic relationship rather than a static category, although the manner in which they approached understanding these dynamics were somewhat different. Annecke focused on the way women understood and played out their gendered roles, James emphasised the structural relations of power, and Ross highlighted variables other than gender, such as age and economic status, in trying to understand the division of labour and reciprocal relationships. Ross's is the most sophisticated study of energy use, while James shows the influence of her co-supervisors' expertise in post-modern discourse (Dr Jennifer Robinson) and development (Michelle Friedman) in the manner in which she analyses power relations and their influence on every day decision making and living (Interview with James, 1999).

### **Negotiating the research design**

Annecke's research evolved out of work she was already doing. James took the opportunity to examine the issues in which she was really interested (natural resource use) alongside investigating wood consumption patterns (Interview with James, 1999). Ross self-consciously negotiated a research design which she felt was able to explore

the realities on the ground better than the ways suggested by the NEC. She had been approached by the NEC to 'establish the impact of fuel on women' (Ross 1993: 6). Ross records that she soon discovered that 'the scope of the NEC mandate was too limited as children and men also performed fuel-related work' and therefore she expanded the focus to explore the effects of fuel on members of households rather than just women (Ross 1993: 6). This was not to negate her feminist principles but in order to be able to explore the nature of the relationships more effectively. Ross's work is interesting in that it is written from the perspective of an anthropologist as well as a feminist. It exhibits characteristics claimed by feminists' for their own, but which are actually shared by anthropologists, in particular in-depth qualitative research incorporating participant observation.

## Context

The women used a variety of techniques in order to acknowledge the particularity of the individuals and groups they were working with, and not to objectify them. One of these was to provide an adequate social context for the reader. Annecke and Ross's studies are set in the context of the chronic lack of housing and basic facilities for urban blacks in Durban and Cape Town respectively, in combination with high levels of unemployment, crime and gang warfare. In addition Annecke's study highlights the effect on households of the internecine political violence between Inkatha and the ANC in KwaZulu-Natal in the late 1980s (and until 1994), and Ross documents the disintegration of households through substance abuse (alcohol and drugs) poverty and violence. Annecke and Ross spend time sketching the history of shack settlements in the areas and note the lack of political will to improve conditions and grant tenure (Annecke 1992; Ross 1993).

They both found that that the residents in shack settlements often have long histories of relocation and changing residence patterns that would affect material conditions and access to resources such as water and fuel (Annecke 1992; Ross 1993). In both settlements clean water was a priority and high voltage supply lines spanned the areas each worked in, mocking the ongoing struggle for paraffin, LPGas or wood each day.

James's study was set in the remote rural village of 150 households called Mabibi in KwaZulu-Natal. Mabibi lies between Maputaland and Lake Sibaya within the proclaimed conservation area of the Coastal Forest Reserve. The KwaZulu Bureau of

Natural Resources (KBNR) was known for its top down approach, disallowing inhabitants access to natural resources where they lived and sometimes undertaking relocations and removals (James 1995: 48). Thus the Mabibi residents were insecure, believing that they were under the threat of removal because they occupied land in a conservation area. All the households in James' sample used wood, eight of the thirteen used gas as a supplementary fuel. James (1995: 73) records that 'attitudes towards wood as a good fuel are consistently grounded in the fact that it is cheap and therefore can be used every day and that it is the habit of people of the area to use wood as their mothers and fathers did'. There were abundant supplies of free wood in the area and it is also easier to cook for large numbers of people (up to twenty-five in a household) using large pots on a fire rather than a small gas stove (James 1995: 73).

### **Initiating the research and collecting the data**

Although it had been somewhat simplistically argued that feminists celebrate experience and would do qualitative rather than quantitative research, by 1980 it had been acknowledged there was a place for both (Bowles & Duelli Klein 1980). However in an area such as energy research where there had been very limited qualitative research, putting the emphasis on qualitative methods was overdue. The studies in question were qualitative but there was an obvious need for quantitative data which each accommodated. The in-depth perspectives were achieved by spending considerable time with small numbers of the 'researched' who were predominantly poor women. The researchers preferred to see these women as participants in the exercise rather than objects of research, but were not unaware of the difficulties of this, as discussed below. The researchers were quite open about the methods that were not successful and the problems they encountered in trying to do research differently.

Annecke describes her position in Canaan primarily as a member of an organisation which was requested to assist the residents resist an eviction order. The women's group (which produced the data on paraffin use) grew out a concern that the women at Canaan were under-represented on the committee and in negotiating forums and should organise separately. Annecke visited the settlement between three and five times a week for between an hour and a full day at a time including attending the women's group meetings once a week over a period of two years from the end of 1989-1992. The women's group began with story telling (Ndukwane et al 1992), and continued by



addressing the lament 'we are so poor...' (Annecke 1992: 23). It was the intention that through monitoring water, fuel and food consumption and expenditure, that the group would be able to discern patterns of over-expenditure and be able to see whether improvements could be made (Annecke 1992). Additional qualitative information was derived through biographical accounts of how each woman came to be at Canaan and the forces each woman perceived to have shaped her life (Annecke 1992: 24). Many of these were told at the group's weekly discussions which were held in preparation for land negotiations and in which drawing was also used to plan the hoped for housing estate (Annecke 1992a). This was a technique similar to mapping (except that Annecke had not heard of mapping).

Quantitative data was essential to establishing expenditure patterns. Data was collected through socio-economic questionnaires and the daily logging schedules, an innovative method of tracking daily income and expenditure that had been started by the women's group and was continued for four weeks at a time, once in summer and once in winter. About forty different women attended the women's group meetings over this period of time, thirteen voluntarily kept regular log books of their income and expenditure and daily fuel use, ten of which Annecke used in her thesis.<sup>75</sup> She notes that in previous household surveys men had been the interviewers and interviewees and were unlikely to be privy to the detailed information the women kept themselves (1992: 64). Annecke checked the ten households' completed daily consumption and expenditure patterns against a survey of forty randomly selected households and against a broader survey of all the households done by Ardington (1992) on behalf of the Canaan Committee.

James lived at Mabibi for most of the four month period from February to May 1992 while the field work was being done. During the time she stayed there, James monitored the fuel use of 13 households selected by the headmaster of the local school and her field assistant, Kholiwe Thwala. The households were not volunteers (Patai 1991), but were selected according to five criteria to ensure that a range of household profiles were included in the sample (James 1995: 33). James does not say how the households were approached, but all agreed to cooperate. They contributed to a range of quantitative and qualitative methods of data collection over four months including the keeping of log-

---

<sup>75</sup> The keeping of logbooks was determined by interest rather than literacy. Three of the women had their school going children write for them every day.



books, the weighing of wood collected, in-depth interviews, and two group discussions. James tested her hypothesis of significant differences in summer and winter fuel-use by wood-weighing, and notes that in May the women began to lay in stores of wood (1995: 33). James documents specific methodological problems, for example weighing wood bundles and developing a complete list of species used were both problematic. Keeping fuel logbooks is difficult to monitor closely (Ross 1993: 19; James 1995: 35). James had conducted her own quantitative socio-economic survey in 1992 in addition to using independent studies of the area.

Ross could not use the site suggested by the NEC for her study because of a taxi war, but found the site, Die Bos, where she conducted her field work, by stopping at a squatter camps wherever she saw them and inquiring about the possibility of research. She found this one alongside the highway to Somerset West where a woman chairperson, Dinah, was in charge, and welcomed her. Ross (1993: 6) said she was 'eager to conduct research in a settlement where the majority of members of the residents' committee were women' and that having a women head who accepted her made conditions easier for the researcher. Dinah permitted Ross to move the university caravan to the site and stay in it from Monday to Thursday every week for a period of 5 months. Ross had intermittent contact with the settlement for some 14 months altogether. Ross recorded that 'my aim in living in Die Bos was to fulfil the requirements of the NEC research mandate by establishing the impact of fuel on women...' Over time she became familiar with about 100 households. Ross (1993: 18) had excellent contact with children as well as her immediate neighbours who provided her with ample opportunity and data to verify and enrich the quantitative data that she also collected. She explained her framework thus: 'Using a fuel as a starting point from which to trace social interactions, I examine the interactions generated around fuel-related production and consumption in the settlement' (Ross 1993: 7). During this time she conducted two surveys, one in summer and one in winter, to ascertain quantitative information on biographical details and fuel use patterns. Ross was also able to use several other sources of data that had been generated as a result of authorities' concern at the uncontrolled squatting in the Hottentots Holland Basin (Ross 1993: 12).

The research was initiated by the researchers rather than the researched, this is discussed further under participation. Although the emphasis of the studies was on qualitative data collection, in none of them was it exclusively so. Each qualitative study was supported

by baseline surveys providing description of the settlements (Ardington 1992; James 1993; Ross 1993: 10). All participant observation was grounded in this data which was also used to corroborate qualitative data schedules. This would point to the usefulness of quantitative and qualitative information in women/gender and energy studies, rather than excluding one as gender-insensitive.

### **Decreasing the distance between researcher and researched?**

The feminist ideal would be to decrease the distance between the researcher and the researched in terms of a vision of equity, and in contrast to male researcher dominance and objectivity. However this approach was not exclusive to feminism either, as shown in Chapter 4, many progressive researchers in South Africa in the 1980s were concerned with 'flat hierarchies' (Hofmeyer & Muller 1988). There is also some transfer from the adult education and emancipatory notions of diminishing the role of expert, and of the expert learning from the learners, evident in this approach (Hope & Timmel 1984).

Although the women researchers spent a great deal of time, some of it in intense interaction with the women research subjects, learned a great deal from them, and were, to some extent 'friends', the distances between the women resulting from differences in race, class, age (many of the researched were older than the researchers), culture and language<sup>76</sup> emphasised rather than constrained the distance and differences. Annecke (1992: 26-27) and James (1995: 36-38) reflect specifically on these questions.

Annecke had been invited into Canaan for political reasons rather than an interest in her potential to do research. The research, it could be argued, grew organically (or exploitatively), from her interaction with the residents of Canaan. The fuel-use study developed out of the women's group investigation into what they spent their money on and why they were so poor. In describing her methodology Annecke (1992: 26) asks whether the study put 'women at the centre, as subjects of inquiry and as active agents in the gathering of knowledge' or whether it fell into the category of research *on* women which Ehrlich (1976) described as a 'rip-off'. The answer is largely left to the reader to

---

<sup>76</sup> Annecke and James had both studied isiZulu at university (James as a major) but had limited command of the spoken language. Ross, coming from Zimbabwe had limited command of the Afrikaans used in Die Bos.

decide. Her theoretical framework falls very much within a gender and development paradigm, examining the relationships between women, men and children, and trying to assess the points of leverage and power which determine access to income, leisure, education, other family members, food, and, of course fuel.

James, writing up her thesis some years after her primary research had been completed, adopted a different approach, reflecting on the ways in which post-modern and post-colonial debates about representation in ethnographic research had influenced her. The power relations inherent in research and the construction of Other haunted her, and she spent time reflecting on her position as an outsider, and her power both as a researcher and structurally as a white woman 'within a racial and unequal social context' (James 1995: 38). James shows the most sophistication in terms of post-structuralist readings of development, feminism, and relations of power; she takes some comfort in acknowledging her position and notes (1995: 37): 'The self-reflexive stance of postmodernism, however, offers an opportunity for feminist scholars to interrogate their research practice and methodology in order to avoid appropriation of the "other".' Decreasing the distance between researcher and researched did not seem possible or desirable under these circumstances.

## Voice

Finding or making spaces for the marginalised to be heard is an important part of the feminist project. It is, however fraught with difficulties (Gluck & Patai 1991). The three theses quote extensively from the participants' own articulation of events and opinions. They use direct speech as evidence and examples enabling the women participating in the research to be read and heard, and in doing so show respect for the exact words spoken and the context. The narratives of some of the women at Canaan were also published (Ndukwane et al 1992). There were, however, aspects of writing the spoken word which alarmed both James and Annecke. One of these was how a moment or a comment could be frozen and used as evidence in perpetuity of the way men and women think or decisions are made, and how quickly one could become an 'expert' through being curious, thorough, or expressing an opinion rather than being knowledgeable. An example of this was the way in which the following quotes have come to be used to illustrate dilemmas and intra-household power relations:

If I buy only one bottle of paraffin and one candle every day I use only that amount, so I am disciplining myself. Also if I only have some few cents I must buy food, some paraffin, one candle and what about the bus fare? (Annecke 1992: 78)

And

I tried by all means to buy a packet of six and not let my husband know. Otherwise he will sit up all night using all the candles. (Annecke 1992: 81)

### **Participation and empowerment**

As noted above and discussed in Chapter 4, there are different expectations of participatory research and empowerment. The feminist ideal would be for the research process and the research results to function together to improve the conditions of women. That those requiring the research to be done should be able to identify the research area, commission the researcher, oversee or assist in the design, methods of data collection and analysis (Nelson & Wright 1995), and have the results presented in a format that they could be used to improve their subaltern or subordinate conditions. But for reasons of power and resources, poor people are rarely able to initiate or follow this process. Usually institutions, or men or women who are in the position to fund the research, direct the form it takes. Feminist methodology required not only that the research should be participatory, but that it should not be exploitative. In Chapter 4 Patai's (1991) assessment of social research is that is unethical, and using poor/black/women to one's academic advantage is exploitative.

The women in the group Annecke worked with attended the meetings voluntarily, and a sub-group of women agreed to monitor their income and expenditure with the aim of analysing their primary expenditure and reducing their spending if possible. These participants had some discussion about what items should be included in the daily expenditure schedules (water, maize, bread, sugar, meat, paraffin, etc). When it was discovered that paraffin was one of their highest daily costs, the group had some suggestions as to how to monitor and reduce this, but generally the direction and analysis were the researcher's. The women participated by keeping records, running the women's group meetings, preparing for the community meetings and preparing for negotiating with officials for land. Some contributed their stories to the book

(Ndukwane et al 1992) but the initial idea for paraffin research was not requested by the women's group.

Ross had permission to stay in Die Bos, and initially relied on children and meetings to introduce her to households where she conducted interviews. Later she kept records on the fluctuating fortunes of various households and the members thereof, and of the social networks which permitted individuals to keep moving while the group remained somewhat stable (Ross 1993). Participant observation as understood by anthropologists, where the researcher is both participant and distanced observer, is somewhat different to the participatory research proposed by adult educationalists and intended by feminists to empower research participants through engaging them in their own research design, data collection analysis and use. The study of women in anthropology is also somewhat different from feminist anthropology, where the feminist critique is central to methodological and theoretical developments within anthropology as a whole (Moore 1988: Preface). Feminist anthropology is not about adding women into the discipline (the importance of relationships is already there) but is, instead, about confronting the conceptual and analytical inadequacies of disciplinary theory (Moore 1988: 4). Ross makes limited use of Moore's theoretical arguments for a feminist anthropology (Ross 1993: 42). She finds most useful the call by feminist anthropologist for new approaches to the study of the public/private (domestic) spheres in order to make sense of interaction, change and differentiation (Guyer 1981; Moore quoted in Ross 1993: 46). Ross found the network approach in relationships and fuel-use useful, in that it recognises the agency of individuals in manipulating social forms. This was one of the phenomena she found characterised the social interactions at Die Bos (Ross 1993: 45). Thus although not self-selected, women and men and children willingly participated in Ross's study.

The thirteen households with whom James worked, were selected by the headmaster and Kholiwe Twala, James' research assistant. They seemed to agree to participate whole heartedly, and after a while let James know about their illicit activities as well as the legal wood collecting (James 1995: 45).

Ideally feminist research should be positively empowering (Moser 1993). Empowerment may take many forms. It could be argued that the women and men involved in the groups that were constituted at all three study sites, were empowered by becoming conscious of their fuel use and being able monitor what it cost them. It could

also be argued that since the research was designed to explore prevailing conditions, and the goal of empowerment was not built into any of the research designs, it could not be part of the results. The practicalities of measuring empowerment make it difficult, and the researchers did not ask this question of the research participants. Annecke (1992: 74) records that the women's group judged their meetings and subsequent mobilisation to have been beneficial and that they learned from each other, but the energy study was consequence of the group – not the other way round. Sizakele Mkhize and Maria Mbuli were among those who escaped Canaan through training provided by the Black Sash. Others improved their positions by becoming qualified child-minders or receiving Red Cross training. This they believed had been empowering (Personal communication Mbuli, Mkhize, 1997). Individual women thus benefited, but perhaps not the majority.

If empowerment is understood as a longer process of self-learning and confidence building as well as the right and ability to make choices, then experiences such as data collection for the energy research may facilitate such empowerment (Sen & Grown 1988; de Vries 1992). On the whole it must be conceded that the research process is unlikely to be empowering for the research subjects unless this is a goal in the beginning. The alternative is for research results to be used either by the researched or by the researcher to improve the conditions of the researched. All three women contributed (and continue to contribute) by using their understanding of conditions in the struggles for universal electrification, choices of affordable, accessible and safe energy services for all, and the removal of value added tax (VAT) from paraffin (which was achieved in 2000). This 'indirect empowerment', which is likely to appear too remote to appease black feminists, is probably the more useful contribution in the longer term.

## **Reciprocity**

If research cannot be directly empowering are there ways in which the researcher can reciprocate? Are there deeds or actions which can in some way compensate for the privilege of gaining information and being made welcome despite one's 'otherness'? Like most outsiders with access to resources such as cash, cars and information (Rabinow 1977), all three women regularly put theirs at the service of the community, taking people to town and hospital (Annecke 1992; Ross 1993; James 1995) but their resources were not limitless. Indeed Funani (1992, 1993) somewhat exaggerated the

positions of such white women who were outside the mainstream of money-flows. James believed that better funding would have allowed her to do more interactive research, although while living at Mabibi she did run adult education classes and teach matriculation subjects (biology, history, English) to pupils repeating their matriculation examinations. She expressed her self-doubt thus:

Even if you are driving people to the clinic, even if you are giving adult education classes and teaching the matrices, somehow it isn't enough.... I don't know, I don't know what would make it enough. I don't think there can be enough.... perhaps if you engage, actively engage with people and your position in relation to them....  
(Interview with James, 1999)

In retrospect Annecke was ambivalent:

At the time it seemed important 'to bear witness' you might say, to document and highlight conditions – to reject conservative white tendencies and be active in doing something else. But I've had so much flack for being a white women, and so little has changed for so few black women, that maybe it was pointless.  
(Interviewed by Marquard, 1999)

Ross, whose professional training as an anthropologist included some acceptance of voyeurism, had less personal anxiety about her right to study and live with the people from Die Bos (Interview with Ross, 1999).

Stanley and Wise (1993: 160) point out that the "researched" will have feelings about us as much as we will about them, and also feelings (and theories) about the research itself. This isn't often discussed in research literature.' This basic but neglected feedback loop was not part of the research design in any of the three theses, or included in the write-ups. The results reported on to the researched were those about energy consumption patterns and natural resource management (Annecke 1992; James 1995). An absence of reflection of the researched on personal relations and process, 'being exploited' could be critiqued as a shortcoming in the methodology, and a neglect of the feminist principle of caring for emotional well-being. It may be that the researchers' role is not particularly well understood or received by the researched. In these instances the researchers maintained contact with the communities concerned for some years.



Ross went back to do a follow-up study in 2000 (Personal communication Ross, 2001), but this is not always the case.

## Content

Internationally the notion of feminist research was not only about methodology, it was also about content (Roberts 1981; Moore 1988; Parpart 1996). Although the 'Women and Gender in Southern Africa Conference' placed little importance on content, this may be where the women's qualitative energy studies contributed most. Feminists expect gender to play an integral role in analysis, they put emphasis on the functions and consequences of the gendered division of labour (Delphy 1984; Beneria & Feldman 1992), the significance of the different cultural roles men and women adopt (Ong 1988; Mohanty et al 1991), concepts such as 'household' and 'domestic' (Mies 1982; Tinker 1990), as well as gendered access to and control over resources, social, political and economic institutions (Macdonald et al 1997; Elson 1991, 1998). It was in these areas that the theses contributed to the understanding of the social uses of energy.

Although women were at the centre of their studies, it was women's relations with others (men, women and children) and the ways in which these determined everyday living conditions that were of interest in the three theses. It is significant that the three feminist energy researchers treated gender as a relationship between men and women, and were particularly interested in ways in which the relations of power manifest with regard to fuel use. In other words they examined 'gender and energy' in terms of broader societal issues and structures of power, rather seeing 'women and energy' as a category isolated from the rest of daily living, or as much of the international women and energy literature was doing, a 'natural' position of subordination to be amended not challenged (Cecelski 1984; DGIS 1990; FAO 1991; Haile 1991). The South Africans were concerned with the structural relations of gendered power beyond the household into social networks and institutions. James is the most clear about gender as power relations and structured her study along these lines:

Of particular importance at Mabibi are the intersecting relations of power embedded in institutions of the state, community and household. State relations have manifest themselves in structural poverty associated with racial apartheid policies. The gender dimension of this poverty is apparent, for example, in

women's disproportionate access and right to employment and education opportunities. At a community level gender relations ensure that women have little control over decision-making processes and the allocation of resources such as land. Within households the social relations of gender determine differential access, right to and control over decision-making processes and resources, as well as shape an asymmetrical division of labour. Through a complex interaction these relations of power have shaped and mediated women's experiences and opportunities. (James 1995: 155)

Feminist research must be concerned with 'all aspects of social reality' including the part played by men (Stanley and Wise 1993: 31). The researchers acknowledged the way in which their own gender relations affected the research, the researched and the audience. They raised this as both an advantage in being allowed into the community and facilitating their access to and conversations with women, and a disadvantage in that it inhibited their access to men. Thus the studies, through social interaction as well as choice, focus on women and women's perceptions largely to the exclusion of men (James 1995: 43) although all three spend some time tracking men's fuel-related activities (Annecke 1992; Ross 1993; James 1995). Annecke (1992: 103) points out that 'in order to support women's strategies, a better understanding of the role of men in relation to fuel is required'. This limited interaction with men is a shortcoming in all three studies. On the other hand the absence of women was not recognised in many other studies at the time let alone remarked upon.

The response of the funder, the NEC, which was in this case also the energy policy maker, to gendered energy research was also important. While Viljoen and his immediate senior, Basson, were supportive and knew that ultimately women were important in domestic energy, they did not really seem to grasp the full import of what they had commissioned (Interview with Viljoen, 1999, correspondence with Basson 1997). It was left to women such as Ulrike Kidgell and Marlett Wentzel, who were appointed to junior positions in 1991 and 1993 respectively, who, after a couple of years experience, took it upon themselves to try and promote women's issues within the Department (James 1999).

## Household

Analysis of another important concept in domestic energy studies which was missing from energy the research at the time and the South African research in particular, was the notion of *household* and its implications. Although household surveys were being done (Eberhard & Gandar 1984; Viljoen 1990), little attention was paid to the individuals who constituted the household. Male surveyors did not differentiate between responses from male or female heads of the households (Interview with Viljoen, 1999). In the 1970s feminists had found the stereotypical version of a women's position in a nuclear family (as household) problematic (Friedan 1973; Oakley 1974). According to feminist critique there was an overemphasis on households as bounded units, and feminists suggested that new approaches to the domestic/private realm were necessary to make sense of the differentiations within domestic units and social aggregation. In addition power and social relations within households needed attention (Guyer 1981; Guyer & Peters 1987). Neither the static model of a nuclear family in which the (male) head of the household makes decisions, nor the co-operative model which assumes homogeneity and that decisions are jointly made, and resources are equitably distributed are adequate to describe intra-household relations (Mehlwana 1999). Despite evidence to the contrary this model of the household has prevailed for some years, perpetuated by planners and policy makers (Thom & Wentzel 1998).

The manner in which 'household' is conceived plays a significant role in the ways in which the gendered division of labour and women's responsibilities (and specifically those related to fuel-use) are understood. Feminists argued that it is necessary to disaggregate the household in order to determine how work is allocated and the extent to which the gendered division of labour operates. They recommended an examination of power relations in households, noting that there had been limited understanding of how the divisions of labour functioned, and limited recognition of the fluidity and changes that have occurred over time (Moore 1988). While South African literature, and staff in the anthropology department at the University of Cape Town in particular, presented alternative views on families and households (Reynolds 1984; Ross 1993) the energy supply industries, and specifically the electrification programme, have tended to continue conceptualising households as nuclear families and have been slow to think through the ramifications of changing household patterns (Crawford Cousins 1998). The three theses initiated discussions on how household composition and dynamics might

affect fuel consumption and brought this thinking into the realm of engineers in the energy sector.

Each of the researchers observed the extent to which households differed at the individual study sites. Although there were a few nuclear families at Canaan, there was a significantly larger number of households that did not conform to any preconceived model or notion of a nuclear family. A range of different combinations of affiliations presented themselves: single men sharing a shack, single mothers and a brother and/or sister and their combined off-spring and/or cousins, a matriarchal figure with three generations under her, and a mother, daughter and uncle (Annecke 1992). The households at Canaan were incomplete in so far as few children of between the ages of ten or eleven and eighteen lived at Canaan. This age cohort had generally been sent 'home' to a rural area in order to continue their schooling where they would be sheltered from most political violence (Annecke 1992). There were also older children or kin (between the ages of eighteen and twenty-five) who had been sent to establish shacks in other informal settlements in the Durban Functional Region on land where it was rumoured that tenure would be granted or low cost housing would be made available. The family considered it prudent to be on the waiting list (Annecke 1992). This meant that women (usually mothers) spent considerable time, effort and money travelling on public transport and on foot to visit offspring in distant places. This had an impact on domestic routines and whoever took over the responsibilities of fuel and food preparation (it also affected the attendance at the women's group meetings). Many households were not fixed units but had permeable boundaries and fluctuating numbers of members (Annecke 1992). The relationships were, however, more stable over the eighteen month study period than those examined by Ross.

Ross (1993: 27) documented high rates of mobility in Die Bos and constant movement of adults and older children. She found the use of 'household' as an analytical term problematic because of the fluidity of relationships and changing boundaries, with little sense of belonging over time that one might expect from a household. Thus she chose to use the term 'residential domestic unit' in preference to household (Ross 1993: 26). In her study 66 out of 100 households experienced changes during the fourteen month period. Prior to Ross's study Reynolds noted that 'no child in her sample of 15 seven year olds in Crossroads, Cape Town, had lived in less than three homes' (quoted in Ross 1993: 41). This led Ross to believe that mobility patterns in Die Bos were far from

unique. Individual mobility provided Ross with an entry point into understanding the fluidity of domestic units (Ross 1993: 40) and she argued that contrary to the literature in which households are presumed to be distinct from one another, have ties of kinship and act in some coherent way to maintain stasis or survive (Ross 1993: 27), there was 'constant tension in the settlement between the processes of domestic unit formation and those processes which led to the dissolution of households over short periods' (Ross 1993:56). As with Canaan there was a dearth of youth between the ages of 13 and 19 living in Die Bos. Only 17% of the children from 13-19 who were offspring of residents of Die Bos lived there, the remainder were passed between relatives and friends (Ross 1993: 176).

Ross preferred to use a networking (rather than a household) approach to unpacking fuel use because the concept of networks recognises the agency of individuals and allowed Ross to track the rapid rate of change of membership in domestic units (Ross 1993: 8). Furthermore she argued that the importance of individuals and experience was under-rated (Ross 1993: 40) and that because too close a focus on household ignores processes of individual agency in favour of structure, networking was a more useful tool for her analysis (Ross: 1993: 30). Of particular interest was the emphasis Ross put on the fact that the reciprocity usually assumed to operate in networks was not always found in Die Bos (Ross 1993: 185). Yet there is considerable emphasis on comensal rights earned and exchanged through fuel-use (wood collection, allowing others the use of a stove (Ross 1993: 46) and the effect of mobility on the processes within domestic units. Ross (1993: 22) notes that changes in membership of domestic units were felt in levels of food preparation and fuel sharing, and that the events in one individual's life were likely to have ramifications far beyond one domestic unit (Ross 1993: 185). To illustrate this Ross provides evidence of how one woman and her ill baby's movements over seven months 'had direct and measurable effects on the material well-being' of the three different domestic units which she moved in and out of during that time (Ross 1993: 132).

Literature describing women's movements or patterns of migration are less common than the male centred literature on migration (Ross 1993: 137) but women's movements are beginning to be documented, and it is known that the movement patterns of children cannot be inferred from those of their parents (Ross 1993: 169). The question Ross and Annecke tried to answer was how these fluctuating households and history of movement

related to fuel use or energy planning. Ross suggests that erratic incomes, residential and geographic mobility, and oscillating migration cycles will be repeated down through generations (Ross 1993: 156) and that the highly fluid boundaries of domestic units should be taken into account in energy service delivery. In other words that whatever services are supplied should be sufficiently flexible to be geared up or down at short notice according to the changing number (Ross 1993: 117). This is especially important in considering fixed supplies such as a limited current electricity supply or whether solar home systems should be sold or rented. Annecke (1992,1994) thought somewhat differently; that mobility patterns may change over time and should be closely monitored because it seemed quite possible that once tenure was granted to substantial numbers of people (which she assumed would be the case under the new dispensation) these patterns might change and households become more stable.

James, working in a rural area, found traditional African rural homesteads with household patterns quite different from the nuclear western model but relatively stable in terms of membership. She noted the extent of patriarchal relations, social, political and economic which would have to be unravelled before gender equity could have any significant meaning in rural areas (James 1995).

### **The gendered division of labour**

Feminists have long been concerned with the gender division of labour in both the private or domestic sphere where women are apportioned (and appropriate for themselves) the major share of tasks, and in the public sphere where men dominate (and appropriate for themselves) ownership and decision-making positions (Morton 1972; Keohane et al 1982; Mies et al 1988). Studies of domestic energy use, that is woodfuel, revealed the disproportional amount of time and effort which women spent on domestic roles and responsibilities (Tinker 1982; Cecelski 1984; Gandar 1984) and as noted in Chapter 2, most of the literature is devoted to finding ways to ameliorate the burden of these tasks. The three South African studies in question here, were, however, different in that they did not confine themselves to *describing* these tasks and suggesting ways to ameliorate them. Instead, each of the researchers attempted to understand the intra- and inter-household dynamics as they observed them. They attempted to analyse the perpetuation of subordination of women in these roles, and tried to link these to structural oppression at a macro-level (Annecke 199:148; Ross 1993:118; James

1995:155). These attempts may have been clumsy, but they put the three studies in a different category to those concerned with designing improved wood stoves and the possibility of using renewables to do the hard work (Khamati 1987; Baldwin 1988).

Moreover the three women understood that the unequal power relations which pertain between men and women (and children) may be manifest in roles and responsibilities associated with the gendered division of labour (Annecke 1992:148; Ross 1993:118; James 1995:155). This was not to deny other factors in the construction of social relations, including age, religion, income, social status and culture, but it was an attempt to lay bare the question of power, without necessarily knowing how to analyse it or how it fitted with gender, space, and labour. There is no single, agreed, feminist position on the location or functioning of power (Kandiyoti 1988; Udayagiri 1995). As Kandiyoti (1998: 147) pointed out, others far better qualified have struggled too, because 'the messiness of social reality has always exceeded the explanatory power of our conceptual frameworks and that this is all the more so in the area of gender'. At the time there wasn't much literature available to guide Annecke (1992) and Ross (1993). In tracking how rights were generated and maintained in households. Ross (1993: 192) found in several instances that power was generated through the performance of labour: 'people gain power by converting others' labour or movement into relations of dependence. However this power is not absolute, nor is it directly exchangeable in contexts beyond those for which it was specifically generated.' This led her to argue that the division of labour is not based solely on gender but on 'varying and relative concepts of space and power' (Ross 1993: 118).

A later text, suggesting the usefulness of Foucault's notion of subjectless power embedded in interactions and events is used by James (Ferguson quoted in James 1995: 143). Power is understood to exist 'between' rather than 'over' subjects, implying an acceptance that the flow of power is not uni-dimensional, but that there may be an ebb and flow of power as well as relations of acquiescence, collusion and co-option. In this regard James records (1995: 143) that there was 'a distinct perception amongst the women that decision making is "men's work" suggesting that women ascribed to prevailing notions of gender roles and identities, and indicating that women accept and perpetuate rather than challenge the social relations of gender which have shaped these roles and identities'. These acts of collusion, raised in Chapter 4, are important insights to bring to the domain of the domestic and domestic energy. In attempt to understand



how these insights function in practical terms, Annecke (1999) deconstructs her own practice (Chapter 9).

The three researchers observed the division of labour in households, residential units and homesteads (Annecke 1992; Ross 1993; James 1995) and agreed that the provision and use of domestic energy remained predominantly the domain of women, and was fundamental to enabling women to fulfil their roles and responsibilities (as well as in constructing and maintaining social and power relations within domestic units and households). However, the division of labour around the acquisition and use of fuel (for cooking, space heating, cleaning and washing) is neither uniform among households, nor static within them, and the studies explored the allocation of fuel-related tasks in ways that the so-called qualitative studies being done by men at the time ignored. Although James (1995: 82) writes that the 'collection of wood is undertaken by women as a key function of their reproductive roles which are determined by the gender division of labour within households', the researchers are careful not to ascribe the label 'women's work' blandly to all domestic activities. Ross is strongest in arguing that the tendency to see particular kinds of work as 'women's', obscures relations between women of different status and hides work done by children and men (Ross 1993: 90). In analysing the social meaning of fuel collection, Ross shows that although fuel related work is located in the domestic sphere it is cross cut by age and status. The ability to command children's labour is an important consideration too (Ross 1993: 102). Children were involved in collecting small amounts of wood, buying paraffin, knew how to fill and light lamps and stoves, and tend food cooking on paraffin stoves and open fires (Annecke 1993: 96; Ross 1993: 106). James explained that while the provision of fuelwood remained the responsibility of women in rural areas, this responsibility may be differentially divided between the women present according to their age and status. She highlights the role of *umakoti* (daughter-in-law) in undertaking most of the hard physical labour, but generally the role of servants is under-reported. There were two households in James' sample of thirteen that had servants; one household kept two children, a nine and twelve year old, who did the wood collecting (James 1995: 83). Annecke came across this phenomenon in urban areas in her follow-up study, and recorded the experiences of one of the women at Canaan who grew up as 'a slave' to relatives (Ndukwane 1992; Annecke 1994). It is clear that there is no uniform experience of the drudgery of domestic tasks even among poor women and girl-children.

All three researchers observed cases in which men collected wood (Annecke 1992; James 1995; Ross 1993). This was generally done on some *quid pro quo* basis; some reciprocity was expected, some ebb and flow of power exchanged. In Mabibi a man 'occasionally' assisted his wife who grew up in Johannesburg and found collecting wood difficult (James 1995: 82), presumably he assisted her in recognition and 'gratitude' for her going to live in a rural area. However there was an understanding that this arrangement would not be indefinite. Ross documented other kinds of reciprocity and argued that inter-personal relations within the household determined functions rather than 'a blanket gender-based allocation'. She found that men living at Die Bos performed fuel-related chores outside of their domestic unit usually in return for food. Women on the other hand performed fuel intensive tasks (such as cooking and washing) for other women in return for cash or commensal rights (Ross 1993: 107). Interpersonal tensions within the domestic unit were regularly expressed through fuel activities: when all was going well the man collected and chopped wood, when they were not he would withdraw his labour (Ross 1993: 107). The woman concerned turned to using paraffin to circumvent some of this manipulation but since she had to pay for the paraffin this was an unsatisfactory solution (Ross 1993: 107). Ross traced commensal relations and the conflicts that arose over who had rights to the products of domestic labour and how these are expressed and mediated (Ross 1993: 120). Kin relationships were important in determining residential membership of domestic units, less so in determining commensal networks which relied on complicated inter-personal relationships and exchanges of money and/or fuel or appliances (Ross 1993: 141).

James (1995: 76) and Ross (1993: 127) both found instances of a stove 'travelling with' the owner. In the case at Mabibi a man took his gas cylinder from one wife (household) to the next each week, while at Die Bos a gas stove was used to leverage commensal rights and use of a paraffin stove became the equivalent of rent. Many people arrived in Canaan without any possessions (having fled the violence) and paraffin stoves were lent to newcomers without expectations of reciprocity (Annecke 1992). Commensal and residential membership did not necessarily overlap and Ross used fuel as an analytical tool to demonstrate how criteria for determining exclusion/inclusion within domestic units depended upon and were manipulated on the basis of rights to food and heat (Ross 1993: 147). She concluded that: 'Underpinning all material interaction such as those engendered around fuel and food consumption, then, were social relationships.' Not a

revolutionary statement in 2002, but in 1993 it was a novel idea, and some engineers at Eskom have still to be persuaded of it (Davis & Ward 1995).

The studies reported a noticeable gender bias associated with fuels: women were associated with wood collection, paraffin and candles, while boys and men were associated with dry cell batteries, gas and car batteries (Annecke 1992; James 1995; Ross 1993). The links between gendered association with fuel and power are not that obscure. All three found that men usually have the edge on energy sources for convenience or entertainment and this has been confirmed by studies elsewhere (Nathan 1997: 9). The researchers understood the process of decision making about appliance acquisition as an indicator of the power relations in a household, who controls the finances and who decides what to buy, when and how. James indicated that this process varied among households: there were households in which all such decisions were made by the male head, more common were joint decisions which were then implemented by a male, but women also made and carried out their own decisions (James 1995: 76). The purchase of a television before a stove was interpreted as meeting the man's rather than the woman's needs (James 1995: 76), but Annecke (1994) found that women were just as keen to have televisions as men were.

Annecke raised questions around household resource management and authority, arguing that in a few cases men made decisions about the choice of fuel but generally women made the decision about what to buy. Thereafter women's authority to control the consumption of energy supplies was contested by men and children who wanted, for example, to listen to the radio, build up the fire or use more candles than the woman saw fit (Annecke 1992: 81). Women resorted to various manipulative measure including hiding candles to maintain control. Annecke notes that 'This perceived inability to retain control ... or in a broader sense, manage resources for which she was responsible, was a significant factor in assessing women's status in the household' and a pointer towards the kind of support women would need if the dynamics of the household were to change (Annecke 1992: 101).

James uncovered the anxiety that an independent woman would create in the household: 'If a woman finds work and has money ... she is not willing to listen to a man anymore. It causes problems in the house,' said the eldest son Linda, in a household in Mabibi (quoted in James 1995: 150). James and Annecke acknowledged the enormity of the

changes that would have to take place in order for gender not to be an issue in accessing domestic energy or any other resource.

To return to the Women and Gender Conference and the issues raised. Was there any difference in the three white women's research on/about/with black women that would have made it acceptable to black feminists? Did the participative and qualitative methodologies employed by the three women serve any of the feminists' causes? Were the research subjects any more or less objectified or exploited, was the research any more or less intrusive? Were the research subjects empowered through the process, and most importantly, did the research make any difference to the conditions in which they had to live? These were questions which were put to the energy researchers. There was no doubt in the minds of all three researchers that their research had been significantly shaped by their being white woman doing research about black women, men and children. Annecke and James experienced deep anxiety about this, Ross, through her anthropological training, was more at ease with it.<sup>77</sup> Although the women responded differently, this awareness was in part why they were so punctilious about describing their methodologies (Annecke 1992; Ross 1993; James 1995).

James and Annecke wrote out of much anger about the conditions which pertained to poor women, Ross, from Zimbabwe, out of a horror of apartheid, all 'wanted to make a difference' by documenting and drawing attention to injustices. They felt privileged to be doing research with women, many of whom were strong and admirable in the face of endless obstacles of gender and apartheid. They acknowledged that capturing thoughts or events in writing, even if carefully contextualised, runs the risk of reifying those moments and objectifying the research subject. James and Annecke felt very similarly about the nature of their research, in particular the fieldwork, as being intrusive, that there is something distasteful about writing up the intimate details of people's lives for

---

<sup>77</sup> Whatever their qualms, all three continued to work with, and do research about black people, and women in particular. Ross (2001) completed a PhD on the women's stories in the Truth and Reconciliation Commission. James is working with women crafters in an area which includes Mabibi, and Annecke has been evaluating the impact of grid and non-grid electrification on the lives of women, and the potential downstream benefits of the Southern African Power Pool on the poor and women in particular.

degree purposes or research reports. In writing women's stories from the Truth and Reconciliation Commission, Ross has faced this question many times. She believes she has documented histories which would have been lost, raised questions which might never have been asked, and worked in exciting and collaborative ways with many women she may never have known (Personal communication Ross, 2001). The arms-length research, surveys by correspondence or fieldworkers with clipboards and questionnaires (see below) must be judged less intrusive than having an 'other' living and working alongside research subjects and participants for months at a time (Interview with James, 1999).

None of the researchers believed their research processes had been empowering at the time, although Annecke believed that the women's group had got close to empowering themselves through their group activities (Annecke 1992: 100). There were mixed feelings about the longer term impact of their studies. None of the women had a strategy for using her work beyond her thesis. Annecke had taken care to write in language so simple that it could be 'bedtime reading', Ross and James thought that once their studies were on the shelves it would be up to interested people to read them. All three handed in reports to the NEC as well as their theses and presumed that the NEC would find ways of using them. Annecke's work had contributed to the interest from the NEC in James and Ross's studies (Interview with Viljoen, 1999). Indeed through their work the women were drawn into the energy sector and EDRC secured their contributions to teaching, research and policy development until 2000, whereafter they went separate ways. Ross designed an early version of a national, longitudinal study, which was known as the Social Determinants project and was conducted from 1994-1997 (see Chapter 7) and believes her work has gone a long way to establishing the importance of anthropology in the energy sector (Interview with Ross, 1999). James was the most dubious about the impact of her work because fuelwood and environmental degradation have received very little attention in the eight years since she wrote. The three theses contributed to making poor women visible in the sector so that further work in this area was commissioned.

The disaggregation of households, the capturing of substantial detail, the significance of minute differences, made it difficult for the researchers to suggest broad policy recommendations and they resorted to suggestions such as 'policy should be gender sensitive' (Annecke 1992: 104). This was, by their own admission, because initially



they had an indifferent understanding of the meaning of policy, and partly because they were reluctant to see their meticulous work brushed over with broad policy strokes (Interviews with Ross, James, 1999). By 1997 Annecke and James were contributing to policy development through their membership of the Women's Energy Group (Chapter 6).

### **'Masculine' research – a comparison**

If there is any doubt that these women were doing something uncommon and using methods quite different to the masculine, mainstream norm, just a brief glance at the studies being conducted by men at this time will dispel these doubts. The question is: Was the process any more or less exploitative and/or were the results any more or less useful?

Masculine research was characterised, perhaps unfairly by feminists, as pretending to be objective, as using quantitative, computer coded, structured questionnaires rather than 'messy' qualitative or in-depth responses, and as being assertive in terms of articulating the voice of the researcher rather than the researched. Despite the intentions of Gandar (1984) and Dickson (quoted in Marquard 1999), the work being done by men (and women) at the ERI, the EDRC and the NEC fell largely but not entirely into this category. By 1989 Basson's division of the NEC was beginning to take socio-economic issues more seriously, and began to make its own forays into attempting to understand these dynamics in energy use. One of the projects commissioned was A Golding and G Heron (1990) which examined the socio-economic impact of electrification on a peri-urban community in Bophutatswana and engaged with Eberhard's finding in 1986 that electrified households spend less on energy than non-electrified (Eberhard quoted in Golding & Heron 1990: 8). Golding and Heron used structured questionnaires administered by fieldworkers, rather than spending time with the researched. However Heron's training as an anthropologist is somewhat in evidence in the way responses are presented and one short narrative articulating the virtues of electricity from one of the respondents is included showing that men too, could create spaces for marginal voices (Golding & Heron 1990: 11). There is no gender disaggregation of respondents or in the data, whether the respondents are men or women, and the differences between them, is not made known.

Golding and Heron raised two issues that have taken ten years to understand better, and are still not satisfactorily settled. The first is whether the provision of electricity increases or decreases domestic energy expenditure, the other is whether increased appliance ownership is an indicator of increased electricity use or not (Golding & Heron 1990: 8). In the former Golding and Heron identified several of the variables which influence energy expenditure: the availability of wood for collection (discounting the social costs), the cost of installation, connection and appliances, whether these are energy efficient and used efficiently, and whether the power supply is sufficiently reliable to be independent from other fuel sources. In this early study of socio-economic determinants, the researchers suggested that on the whole energy expenses are related to general expenditure rather than income, and that electrification indicates some time saving in cooking meals. Following on consistent requests for information by those interviewed, they suggested information dissemination was a gap which should be filled (Golding & Heron 1990: 18). The point is that despite using methods of which feminists may not have approved, Golding and Heron's research produced insights and directions which have remained relevant over time.

In February 1991 Heron and Golding published the second part of their report, which was intended to examine 'domestic change, user experience and understanding'. Their purpose was to test whether electrification allows for more free time and how that time is used. The methodology they used contrasts sharply with that being used by the women researchers at the time (Annecke 1992; James 1995). Golding and Heron's method was to send letters to households who had responded in the first sample asking them if they would be willing to participate in the second phase (Golding & Heron 1991: 2). Those who answered in the affirmative (19 electrified and 14 non-electrified households) were then sent daily diary forms 'with a covering letter describing how to complete the diaries' (Golding & Heron 1991: 2). Annecke (1992), Ross (1993) and James (1995) using similar schedules and maintaining close (almost daily) personal contact with participants, noted how difficult it was to keep accurate records. It is not clear how Golding and Heron managed to secure willing respondents, nor how accurate the diaries were, but notwithstanding this 'research by correspondence' Heron and Golding's findings concur with other studies in so far as types of foods prepared and eaten regularly are concerned. In addition they produced a series of interesting observations: that electrified households enjoy only 29 minutes more leisure per week than unelectrified, that the unelectrified households listened to the radio more than television,



that electrified households 'do not seem to be taking advantage of improved lighting to the extent that these differences are statistically significant' (Heron & Golding 1991: 9) and that 'the benefits of electricity, at this stage of the electrification process, are more perceived than real' (Heron & Golding 1991: 13). None of these findings has been disputed. On the other hand suggestions such as the following reveal an attitude probably not found in the feminist work:

It is proposed to develop a prototypic guide which would be given to a sample of householders in Bapong. *These people would then be tested for their comprehension* of the information, the idea being to determine how best to put certain items across and the perceived importance/relevance of items. (Heron & Golding 1991: 22, emphasis added)

In these circumstances feminists and adult education experts would prefer to test the materials rather than the people.

In 1992 two men from the University of South Africa, H Swanepoel and F de Beer, were commissioned by the NEC to investigate fuel use by urban women in the PWV area. It is worth noting that as with Golding and Heron, it was Swanepoel and de Beer's intention to do in-depth, qualitative research. In fact they spent some time describing the difficulties of conducting such research in the (then) current political conditions. They describe their methodology as divided into three phases: phase one was a survey, phase two in-depth interviews, phase three 'was meant to consist of the gathering of data (by means of fuel logs)' (Swanepoel & de Beer 1992: 2) but for various reasons this was not done and an annotated bibliography was compiled to satisfy the funder instead. The 'in-depth interviews' were conducted by fieldworkers, and consisted of structured questionnaires. The responses were then tabulated and constitute the bulk of the report. The participant observation referred to consisted of a de-briefing of the fieldworkers. Some statements in the report reveal assumptions and attitudes which progressive researchers would find problematic, such as the following:

Electricity does not play the same important role in the lives of these people than, for example, among white suburbia [sic]. The people are not nearly so dependent on electricity. They have few electrical appliances. Their consumption, therefore, is low and it is easy for them to revert back to alternative fuels if electricity

becomes too expensive or if their service is cut off. (Swanepoel & de Beer 1992: 32)

The 'comprehensive annotated bibliography of books and journals on energy from 1983-1991' (Swanepoel & de Beer 1992: 34-47) consists of 57 entries with very short paragraph annotations, only two of which are by women and only one of which refers to women and energy.

A third case is given simply as a reminder of the kind of mainstream work being done at the time. It was a master's thesis, with no pretence of being interested in women. It was written by H Barnard for the University of Pretoria and investigated customer opinions on aspects of electricity supply. He used survey methods based on people phoning in to the Electricity Advice Centre in Soweto (Barnard 1991: 60). Barnard described the theoretical foundations he used as 'the more recognised theories which are important to help understand the behaviour of people and their response to questions'. They were Maslow's hierarchy of needs, Alderfer's ERG theory and Herzberg's two factor theory (Barnard 1991: 12). Barnard's study is a good example of the mixture of practical and bizarre understandings found in the behaviourist camp of the HSRC and similar research bodies at the time, and objected to by progressive researchers (see Chapter 4). For example, he writes:

Most South African blacks are still in the process of satisfying basic needs such as:

- protection against the elements
- a house to stay in
- food for their families
- sexual satisfaction. (Barnard 1991: 13)

Despite this and other questionable statements in the report, Barnard's closure is as valid now as it was ten years ago when he wrote it:

All research usually ends by saying there that a lot more research needs to be done in the particular field. So much research has been done relating to affordability of

electricity and some of these other issues. A message to the industry would be not to stop talking but to start doing something about it. Soweto residents have had this bad service for so many years now and still it is going on.... I seriously urge those parties involved in electricity supply in Soweto to remove their prejudices and pre-conditions and help to bring about positive change in Soweto now. (Barnard 1991: 103)

This research was paid for by Eskom. On the other hand there were changes happening within Eskom too. Three years after this study Eskom contributed substantial funding to an EDRC programme monitoring the electrification programme in rural areas, a programme in which Bronwyn James played a prominent role and which had a completely different social and political bias.

### **In summary**

The focus of this chapter is three women, who they were, the processes by which they came to write about energy, whether and how they were influenced by debates on women and gender at the time, their understanding of the significance of their research, whether their methodological perspectives brought new dimensions to the research directions and the impact their work had on the women they researched and the energy sector as a whole.

In contrast with the three women presenting papers on renewables in Chapter 4, these three studies provide an example of women breaking into a previously masculine research territory and redefining it. The women's research raised awareness about different ways of doing energy research and of the possibilities of gendered research. One of the first noticeable differences between the research being done at the time at EDRC / NEC and by the three women, is the attention the latter paid to method and contextualisation. Each is punctilious about contextualising her study and provides a detailed description of her methodology. The women raised awareness about women as end-users of domestic energy, about the considerable differences between women, the need to examine the notion of households and the allocation of energy related tasks within them. They also raised awareness about gender in organisations such the NEC and EDRC where masculine had previously been the norm and 'women' simply a token word.

The women highlighted gaps in knowledge about domestic energy users and set trends for future research. They treated energy as a catalyst rather than an end in itself, this some years before it became common currency, particularly in South Africa. Indeed their work has contributed to this conceptualisation in South Africa. The identification of paraffin as a substantial component of every day fuel expenditure was a significant breakthrough. All three spent considerable time managing participatory processes, taking care of the people who were giving them information, examining their methodologies and revealing their own concerns for public scrutiny. Whom did this impress? All that mattered to the feminists was that as white women they should not be doing research about black women, and the NEC showed a marked indifference to whether they received in-depth studies or the arms-length research of Heron and Golding (1991) and/or Swanepoel and de Beer (1992), since both produced a few usable results. Despite their careful processes, the women did not believe that the women they researched had been immediately empowered, a notion which however ill-defined and differently understood, carried great weight in the communities which they worked and among their feminist peers. They had mixed feelings about the longer term benefits of their work.

The South African women were not aware of the women and energy debates of the time (Tinker 1982; Cecelski 1984). However they were aware of liberation politics and the emphasis on democracy, equality, transparency, accountability, participation and empowerment. The form in which the researchers made women and gender central to their energy studies was new in South Africa. In many ways their emphasis on relationships and power put them on a considerably different path to any of the other work being done on women and energy in the sector. Gender as the South Africans understood it has not been incorporated into the international energy sector at large, most development workers and researchers preferring to continue to find ways to ameliorate women's conditions. At the same time what the women chose to investigate and write about was limited in terms of the household. It remained at the level of the familiar, the modest, the bottom end of the sector in funding and importance, not challenging the structures or the politicians or policy makers as they would have liked to have.

## **CHAPTER 6**

### **The Women's Energy Group and an experiment in participatory research**

The Women's Energy Group (WEG) was an interesting experiment in participatory research and support for policy making. It was many other things too. It was established to support women, all women, working in the energy sector, from grassroots activists, to engineers, to researchers and women working for the Department of Minerals and Energy in the new dispensation. Research was one of its objectives, with the idea that all members should contribute their knowledge and participate in such research (WEG Constitution 1994) and that WEG should use its research in lobbying and advocacy work. WEG is best remembered for its contribution to the development of the Green Paper discussion document (the precursor to the 1998 new White Paper on Energy Policy) and the consultative processes preceding the National Energy Summit in November 1995 for which it took responsibility (Ward 1995; James 1999). The focus for this analysis of WEG is this contribution to new policy research but because it is unlikely to be documented elsewhere, time is spent on other aspects too.

WEG was both a rallying point and a symbol of a previously neglected and marginalised group, women, staking their claim in the energy sector in accordance with the principles of equality in new dispensation. Although it was small (it had a peak membership of about forty), and was in existence for just under four years, no overview of women's emergence in the energy sector in South Africa would be complete without reference to this short-lived ginger group. It captured some of the social energy of the time, the enthusiasm and contradictions as well as the political ambitions, obstacles and exhaustion of its members. It reflected South Africa in transition. The chapter explores how WEG originated, what WEG set out to accomplish and the contribution it made during its short lifetime.

The history is pieced together from official records and documents including the facilitator's notes from the September 1995 workshop, personal files, interviews with

WEG members, in particular the co-founders Rita Mfenyana and Khibi Mabuse,<sup>78</sup> as well as members Ilne-Marie Hofmeyr, Bronwyn James, Amita Makan, Winifred Mandlazi, Fiona Ross and Sarah Ward.<sup>79</sup> Less formal conversations were held with Caroline Hooper-Box, Nomawethu Qase, and Cecile Thom. Use is also made of James' (1999) article which was the first attempt to analyse WEG's contribution to the policy process. The interviews with Rita Mfenyana are given the greatest weight. Her story is privileged, not only because it is unique but also because the impetus for the Women's Energy Group came not from South African women, but from this woman born in Russia who first came to South Africa in 1992. In addition Mfenyana's story sheds light on the ANC's position on women, how women 'pushed to be included as equals from Tambo's speech in 1981 onwards' (Interview with Mfenyana, 1999) and provides insights into the technical education of black women outside South Africa.

### **Rita Mfenyana, founder of WEG**

Filarida (Rita) Mfenyana<sup>80</sup> was born in the former USSR and graduated in 1963 from the Kazan Aviation Institution where she studied radio-electronics. She met her South African husband-to-be at a students' summer camp. He had been sent by the ANC to study economics at Kiev, and they married in 1963. In 1967 the ANC sent them to Hungary. Thus began her life as the spouse of an exile who would be instructed by his organisation to move 'every now and then' (Interview with Mfenyana, 1999). In 1971 they were sent to Cairo. It was at the time of Nasser and there were many Russians in Cairo, but Mfenyana couldn't get a job except as a translator. This was the first time she had come across prejudice to women and reactions of surprise to her being a woman and an engineer and she began to think about 'gender things' (Interview with Mfenyana, 1999).

---

<sup>78</sup> General Manager: Transport Policy Strategy since 2000.

<sup>79</sup> Wrenelle Stander (Ruiters) who is Deputy CEO of ATNS was not available for an interview but was sent the chapter to comment on.

<sup>80</sup> The lives of the exiles in Africa and eastern Europe have still to be documented. The personal details of Mfenyana's story, which make riveting reading (and listening), have, on advice, been pared from this account. Her story deserves fuller treatment.

Three years later in 1974, on the instruction of the ANC, they moved again, this time to Lusaka where Mfenyana found she was able to use her technical skills. She applied to the Zambia Electricity Corporation where the head of the company was also a graduate of the Soviet Union and was not surprised to encounter a woman engineer. She thought he may also have had some sympathy for the liberation movement. Either way, he employed her to work in the communications department on telecommunications and distribution. Although for many other Zambians, women engineers were a novelty, Mfenyana encountered only what she called 'some slight inconveniences' but no major problems in the ten years that she worked in the predominantly male environment. She noted that ANC cadres were not encouraged to marry because they all lived in a small camp in Lusaka and there was little provision for wives and families. However professional wives were allowed to work. In fact, as Mfenyana recalled, it was appreciated by the organisation because the women became the breadwinners and relieved the financial strain on the ANC. Thus it was that for the duration of their time in Lusaka, Mfenyana was able to practice her profession (Interview with Mfenyana, 1999).

After the Soweto riots in 1976 there was an influx of youth from South Africa to the camp in Lusaka. These young people intrigued Mfenyana. 'There were all these angry young black women', she said, 'coming from the Black Consciousness Movement who arrived at the camps and began challenging the ANC'. These young women included Nkosazana Zuma (currently Minister of Foreign Affairs), Mavivi Manzini (Member of Parliament for the ANC) and Sankie Mthembi-Nkondo (Minister of Housing since Joe Slovo's death in 1995).<sup>81</sup> 'These girls were great' said Mfenyana, 'They brought new vigour and life from South Africa. They challenged the ANC dictum of national liberation before women's emancipation, insisting that women's emancipation was as important as national liberation, and influenced the important shift in thinking which

---

<sup>81</sup> Manzini (1995: 39) recalls Mthembi-Nkondo's dedication to the struggle when they were both students at the University of the North in 1975, and, unbeknown to each other, both involved in the ANC underground movement during this period. They met again in 1978 in Lusaka where Mthembi-Nkondo was editor and Manzini sub-editor of *Voice of Women (VOW)*, the ANC women's section journal. Mfenyana indicated that the bonds forged in exile are unbreakable and these stories too, have also still to be told.



was finally accepted at the Luanda Women's Conference in 1981'. This was when President Tambo said:

The struggle to conquer oppression in our country is the weaker for the traditionalist, conservative and primitive restraints imposed on women by the man-dominated structures within our Movement, as [sic] also because of equally traditionalist attitudes of surrender and submission on the part of women. (Quoted in Statement of the National Executive Committee of the African National Congress on the Emancipation of Women in South Africa, 2 May 1990 in *Agenda* 8: 19-23)<sup>82</sup>

Reserved though she is, Mfenyana valued the regular meetings of the Women's Section to which all ANC women automatically belonged. She was a careful listener and observer who noted with interest that the understanding of women's rights, gender and feminism was very fluid among the women. 'The ideas', she said, 'changed from meeting to meeting because the notion of gender equality was evolutionary in the organisation'. Mfenyana believed the debates around gender and feminism were useful and necessary and exposed young women to powerful concepts and ways of looking at the world that broadened their horizons and liberated their minds. She was influenced by the new wave too. It reflected in her own observations and in the work she wanted to do (Interview with Mfenyana, 1999).

In 1985 or the beginning of 1986 the Mfenyanas were posted to the ANC diplomatic mission in East Germany. They returned to Lusaka in 1988 and from 1988-1989 Mfenyana was sent on the Pan-African Institute for Development's post-graduate diploma course in project planning and management held in Kabwe. Mfenyana, in her restrained manner, described the course as 'quite interesting' and in 1989/90 proceeded to become involved in the establishment of women's desks in ANC projects. Then came the unbannings and the chance to go to South Africa. In 1992 the Mfenyanas were repatriated along with many other exiles. Initially Mfenyana and her husband were

---

<sup>82</sup> The 'traditionalist attitude' was in evidence in 1985 when Shope spoke on feminism at the UN conference in Nairobi (Shope 1985).

based in Johannesburg. She maintained her position in the Movement and continued her work for the organisation (Interview with Mfenyana, 1999).

## **The Women's Energy Group**

Four phases of development can be identified in WEG's short history. The first phase was one of conceptualising a women's group in the energy sector (a novel idea in South Africa) and formalising its purpose in a constitution. The second phase was one of ratifying the constitution, expanding the membership and setting goals. In the third phase WEG responded to the political climate and demands being made for new energy policy, as well as extending the network beyond South Africa's borders. The fourth phase began with a workshop and a plan to employ a WEG co-ordinator but instead saw the demise of WEG as political conditions and imperatives changed. Each phase was punctuated by workshops attended by most members and was influenced by events taking place at time and the changing demands made on the members of WEG. The initial meeting was funded by the ANC Women's League and thereafter international donors sponsored these gatherings. These workshops were the only time that the members, who were dispersed across South Africa and all levels of society, met as a group. They provided the opportunity for members who were not based at EDRC or in Cape Town to be included in decision-making and planning. These encounters proved useful in sharing information about what was happening in different parts of the country and space to reflect on the group's activities in the way of achievements and limitations.

### ***WEG phase one: mid-1993: a women's group in the energy sector***

In 1990 the ANC Women's League (ANC-WL) had been launched inside South Africa (Annecke 1990) and when Mfenyana settled in South Africa she became a member. One of her tasks in early 1993 was to attend the newly-formed National Electrification Forum (NELF) meetings in Johannesburg. NELF was an important forum constituted to thrash out electrification policy under a new government. The DMEA, Eskom and EDRC were represented among others. The ANC delegation to NELF included one woman from the Women's League, and Mfenyana attended the second NELF meeting as the ANC-WL representative. With her engineering qualification, her experience in the Zambian Electricity Corporation, and her interest and training in gender issues, she was an ideal representative of the ANC-WL. She immediately noticed the absence of

other women at the Forum,<sup>83</sup> which was dominated by white men and technical jargon. There were no channels through which women could articulate their energy policy preferences (WEG notes 1994; Ruiters 1996). Most women working in the energy sector had little formal technical training and limited command of the discourse of energy supply and demand, consumption, peak loads or costs pertaining thereto etc., which put them at a severe disadvantage. Mfenyana made a quick assessment that 'only the presence of technically educated women (and preferably black women) would have any impact in this forum' (Interview with Mfenyana, 1999). The ANC-WL agreed to her suggestion that they call together black women engineers (ANC trained and others) to form a non-political women's group to increase the number of women at NELF. Mfenyana contacted appropriately skilled women, primarily engineers, to attend.

Mfenyana was duly joined at the third NELF conference in August 1993 by women with technical expertise. Nosizwe Funde from the Rand Water Board, Nosizwe Nokwe from Engen in Cape Town, Lulama Loza and Ayanda Noah from Eskom, Lindall Shope and Pinky Mohade from Shell House also attended. This was the largest gathering of black women engineers many of the men at NELF had ever seen. This apparently easy access to black women engineers was partly as a result of the exiles coming home, partly as a result of knowing educated women in South Africa. 'The ANC had trained many women technicians (engineers)' Mfenyana said, 'and there was no reason for them not to be there' (Interview with Mfenyana, 1999). However it didn't mean there were sufficient black women engineers in South Africa.<sup>84</sup>

---

<sup>83</sup> Women were similarly absent from the Liquid Fuels Task Force – the body established to advise on policy for the petroleum industry.

<sup>84</sup> Inside the country, out of all sectors of the population, black women received the least education. In 1988 56% of university enrollments were men, 44% women, but women were clustered in the social sciences and humanities and black women were generally under-represented even in these. In engineering departments men outnumbered women by 27: 1 (Budlender 1994: 130). Following these graduates into working life Budlender found that 'Only 4 % of engineers in 1989 were women and none of them were black women' (Budlender 1994: 133). In 1990 there were only 100 women enrolled for PhD degrees in South Africa (Thompson 1994: 271), and none of these were in engineering. The return of the exiles changed the number of black women graduates in the country; however there was

NELF was where Mfenyana met Khibi Mabuse who had been one of the first black women trainees to be employed by EDRC on the EPRET programme (Chapter 4). Mabuse had returned to Johannesburg as soon as the programme was over. She was employed at the Housing and Reconstruction Policy Unit at the time of NELF and soon after moved to the Minerals and Energy Policy Centre. She had done post-graduate work in management and administration at the University of the Witwatersrand and had gone to the EPRET programme at EDRC to gain experience in a policy environment and test how the theory she had learned at university stood up against the reality (Interview with Mabuse, 2002). Mabuse had been a conscientious student, not politically active or gender aware, but, she said, being in a sector (energy) in which she was often the only women and the only black ‘somehow bothered me and only then did I become more active’ (Interview with Mabuse, 2002). At EDRC the EPRET trainees believed they were not getting the support they needed and she and Amita Makan became the spokespeople for the group. She traces her feminism from that period onwards, noting that:

there was quite a lot of excitement about women’s issues. It was in the air – stuff about rights too – it was a revelation – the idea that women had issues and rights and should claim the space and power to make our voices heard – and that other people would sit up and take notice of what women and women’s groups said – so we did, we did start making a noise. (Interview with Mabuse, 2002)

Mfenyana<sup>85</sup> and Mabuse were nominated onto NELF working groups where the research and policy papers were to be produced. Most of what they were dealing with

---

still a shortage of technical skills (Prekel 1994; Thompson 1994; Lessing 1994). Despite the intentions of WEG and the efforts of organisations such as the Centre for Research in Engineering, the Association of Consulting Engineers and South African Women in Science and Engineering, women and particularly black women engineers, remain scarce (Jawitz & Case 1998; Jawitz et al 2000).

<sup>85</sup> Mfenyana’s participation in the working groups was a little more complicated. She said that she was ignored at first, but that Steve Thorne and Mabuse ‘smuggled me into a group where Khibi was and together they managed to place me into a group ‘legally’’ (Interview

was orientated towards households including appliances and such like, but there was never any mention of users, or women as users. Thus they decided to form a women's support group to try and raise awareness of women as users, how electricity impacts on women and what sort of research and policy they should be developing (Interviews with Mfenyana 1999, Mabuse 2002). A meeting was held in Johannesburg in mid-1993 where the Women Energy Group<sup>86</sup> was formally decided upon. While the need for a support group for those women participating in NELF provided the trigger for the group, from the outset WEG was conceived of as a multi-layered organisation intended to link women working in the energy sector with those affected by it. Mfenyana was particularly clear that membership should span a wide spectrum of women from poor urban and rural societies, community based organisations, business, academics and politicians (Interview with Mfenyana, 1999). This broad association represented a first attempt to bring together women with low incomes suffering from energy poverty with those involved in research, technology development, policy and governance, and facilitate co-operation among them (James 1999: 25).

Some months later, in April 1994, a group of about ten concerned women met over a weekend in Johannesburg to formalise the purpose of WEG and to develop a constitution. The Facilitator's notes from the weekend reveal a determination to form an organisation that could stand on its own, and an agenda which included agreement on a constitution, setting objectives for the new organisation, and developing a shared understanding of work to be done. Participation in NELF and their performance in the Forum preoccupied the women at the meeting and the notes are scattered with reflections on their achievements and factors that had caught them by surprise. One of these was that the WEG members had assumed they could represent the interest of all men and women but both the South Africans and the returnees found that not knowing about each other as well as a general lack of information about the sector hindered them from making progress in the Forum. Another insight was that in order to have access to hierarchies of power, women needed to include men in their lobbying; alone they had insufficient input and access to important people in the energy sector. Some argued that

---

with Mfenyana, 2001). She thought that the Eskom and DMEA men had problems recognising a white woman so deeply involved in the ANC.

<sup>86</sup> Mfenyana's name. It became easier to say Women's Energy Group.

progressive men and women with technical knowledge had to form an alliance as a strategy to challenge the old guard at NELF (particularly Eskom and DMEA officials). Others thought it was women's lack of technical skills and jargon that resulted in their being ignored, and that they should endeavour to learn and use the language of the NELF men in order to be heard more effectively. The notes of the meeting emphasised that most of the men in the Forum did not seem to hear or accept the women's delegation. Whether this was racism and/or sexism was not clear (Facilitator's notes, 1994). In hindsight women thought both (Interview with Mfenyana 1999, Mabuse 2002).

WEG's contribution to NELF was not very successful (Interview with Mabuse, 2002) but their presence and contributions had pointed to a need for the NELF participants to be aware of the forum's race and gender composition. The old guard were required to meet the new requirements of race and gender in order to legitimise their processes and Mfenyana believed that the NELF women assisted in their understanding of what this might mean – at least in appearance (Interview with Mfenyana, 1999). However the women's experience in the forum was to provide a blunt reminder that physical presence, and even acknowledged contributions, did not equate to political influence, and although Mfenyana believes that 'the proof-reading [for gender sensitivity] of the Working Group reports by WEG was impressive, and finally appreciated by the DMEA "experts" ', in the end women's issues received scant attention in the NELF documentation (Interviews with Mfenyana 1999, Mabuse 2002).

The WEG meeting referred to above also discussed a constitution which had been drafted by Rita Mfenyana and reflected her concerns and those of the women engineers (returning exiles) with the energy sector as they found it. Time was spent developing the objectives of WEG and discussing what should be included in the constitution. There was a note of anguish from one of the participants which was to be repeated at future workshops: 'We were so few. This was a weekend activity and there were no childcare facilities' (Facilitator's notes, 1995). There is little wonder that the women felt overwhelmed. Over the next three years the group increased fourfold from the original ten but at its peak WEG had only about forty subscribed members (there is no complete membership list) and they had set themselves daunting tasks. WEG adopted an interim constitution on 17 April 1994. Mfenyana and Mabuse agreed to act as the Provisional Secretariat of the fledgling women's group until an Annual General meeting could be

called in August 1994 which would ratify the constitution, draw more women into the organisation and develop a plan of action.

The Constitution (Appendix 1) is the only WEG document available which can be examined for the members' interpretation of 'women and energy' and is explored here for what it reveals about the underlying assumptions of the founder members (and that were accepted by all subsequent members). The background information describes WEG's purpose as that of social equity with a focus, understandably, on redress for poor women. The constitution describes WEG as an organisation designed to act; and to act for themselves as women in the energy sector and on behalf of women as consumers and women as a group excluded from professions and financial interests in the sector. There is no record of debate about whether, for example, gender or women might be the issue, or what constituted the links between women and energy, or how priorities would be decided upon. There was an assumption on the part of founder members that 'women's energy' was a self-evident term and concept. Although aware of women's issues, the founder members had technology rather than gender expertise, and were interested in implementation rather than theoretical discussions.<sup>87</sup> The founder members of WEG were not concerned with theoretical positions or being internally consistent.

---

<sup>87</sup> This focus on activities rather than theory could be contrasted with the process involved in the establishment of a branch of Federation of African Women in Education (FAWE) in Cape Town, where at their first meeting on 5 May 1995, the group 'felt there was also a need to explore more thoroughly the concepts of 'gender' and 'equity' and in particular to develop a theoretical framework within which to situate any work which was undertaken in pursuit of the goal of gender equity in education'...and that there was a need to establish a consistent theoretical position, 'ensuring that 'gender equity' remains the central component, and exploring ways in which this might differ from a 'women's' organisation' (Sutherland 1995: 3). FAWE too was committed to inclusivity, and intended to address this through 'programmes rather than individual membership, as well as relations to other organisations' (Sutherland 1995: 6). The FAWE participants included Dr Teboho Moja (Executive Director: National Commission on Higher Education), Ms Sheila Sisulu (Special Advisor to the Minister of Education), Ms Naledi Pandor (Executive Standing Committee), Ms Rhoda Kadalie (Gender Equity Officer, University of the Western Cape), Dr Mamphela Ramphele (Deputy Vice Chancellor, University of Cape Town) and Prof Nasima Badsha (Acting Vice Rector, University of the Western Cape). A grouping of intellectual women interested in questions of theory and quite different to that of the technical expertise of the WEG women.



The words *women*, *gender* and *female* are used interchangeably in workshops, reports and notes. Mfenyana herself uses *female* in her notes where she wishes to sidestep women/gender debates.

There were practical reasons for this. Mfenyana argues that there were a multitude of women's organisations including the ANC-WL and the Women's Coalition which were supposedly dealing with the task of defining gender and many universities were establishing women/gender groups to develop South African theoretical concepts (Interview with Mfenyana, 2001). Also despite the National Executive Committee of the ANC's statement on women (Beall et al 1990; NEC-ANC 1990), debates about feminism had not yet been resolved in the ANC Women's League, and the commitment to inclusive membership of women from different educational and class contexts, as well as different race groups, meant that different women would have quite different levels of understanding of women and gender issues. WEG wanted to accept all of these (Interview with Mfenyana, 1999). In addition the political imperatives demanded immediate engagement and response rather than critical reflection and debate on the position women and/or gender in the energy sector (Interview with Mabuse, 2002). The lack of an agreed theoretical foundation, according to which positions could be agreed and activities could be prioritised, proved a stumbling block later.

The Constitution as it was written by Mfenyana placed WEG squarely within the Women and Development framework. WEG's understanding of 'women's energy issues' are most clearly defined in the recognition of the gender division of labour, and the energy services women require to meet their domestic obligations. The responsibility of WEG was to address those practical energy needs as well as the concomitant physical hardships and health hazards related to the use of current energy sources. This is a very different conception of women/gender and energy to that being developed by South African feminists. In addition to those discussed in the previous chapter (Annecke 1992, 1994; Ross 1993, 1994; James 1992), Amita Makan was developing an important gender critique of the development context for energy planning (Makan 1994). Mabuse, who had been with Makan at the beginning of the EPRRET programme, accounts for this in terms of necessity:

Gender for us [WEG] at the time meant women. Well, not really. There was your and Amita's work which was about gender. My impression at the time was that

gender was about relationships between men and women, but there was more focus on women. There had to be. There was so little awareness of women in the sector and no understanding of how access to energy sources impacts differently on women. We could address men, women and energy later on. First we needed to make these issues concrete in our day to day lives and engage at our own levels. (Interview with Mabuse, 2002)

Mabuse unquestioningly took the lead from Mfenyana as an older and more experienced member of the ANC-WL (Interview with Mabuse, 2002).

The WEG Constitution provided a set of aims for WEG's work. They ranged from advocating particular approaches to energy supply (integrated, gender-sensitive, non-polluting – and none of the concepts are defined), to engaging women in the manufacturing of appliances, and changing social perceptions (gender stereotypes) in order to increase the number of women with technical skills. While all the aims are laudatory, they proved too broad to be accomplished in WEG's short life. Most were lost in the pressures and demands of the time.

The *objectives* set the group concrete tasks to accomplish. The main activities being assessing gaps in research and information, monitoring, evaluation and advocacy to meet (poor) women's energy needs as well as training and resources for women to become technically competent and able to feed into policy formulation. Environmental considerations are mentioned in both the aims (*the development of non-polluting renewable sources*) and the objectives (*to propagate knowledge on environmentally friendly technology for sustainable development*), revealing an awareness which was only just beginning to be popularised in the energy sector, but which found little opportunity for development and expansion during WEG's life-time. WEG's research objectives were important: thinking about assessing women's energy needs and how to conduct participatory process put WEG members in a sound position to contribute to developing new energy policy (Interview with Ward, 2000).

The Constitution was clear on the rights and responsibilities of members. Everyone had to share their information, and teach each other technical expertise according to a commitment to inclusiveness and democratic practices. There was a focus on addressing the lack of women's technological expertise and the intention to promote knowledge and use of technology for and by women. There is also an objective to use women's

local knowledge and experience to develop what would then be aptly called 'appropriate technology' because it had been designed (or co-designed) by women to be appropriate for them. This was deliberately contrary to the more common custom of labelling 'appropriate technologies' those technologies (such as efficient stoves) which have been constructed *for* women by others who deem them 'appropriate' (Kammen 1995). The Constitution also stresses the importance of young women and girls thinking beyond current gender stereotypes and entering science and technology fields and careers. Considering the abysmal lack of women in the energy sector in South Africa (Ruiters 1995) and the problems which non-engineer WEG members experienced entering the masculine discourse of the engineers at NELF (Interview with Mfenyana, 1999), this could have been an important function of WEG, and provided a strategic direction for the longer term. Instead the immediate political demands for research and policy development and the challenge of women's inclusion in these, absorbed the attention of WEG members. There is no composite directory of completed women/gender energy work for us to analyse the work of WEG. Such record keeping and analysis would have been useful for a network which was constituted for mutual support and information sharing.

Even before the WEG Constitution was signed into being (April 1994), WEG women were actively engaging (men) in variety of forums. In November 1993 UNICEF provided funding for four WEG members from Johannesburg to attend the conference on 'Domestic Use of Electrical Appliances' in Cape Town. Mfenyana believed that the technically competent WEG women (most of whom were engineers) made a good impression on the conference participants with the questions they asked and the knowledge they displayed (Interview with Mfenyana, 1999). At the same time they strengthened their ties with EDRC staff who were at the conference, in particular Steve Thorne and Mark Pickering. Mfenyana was impressed by the EDRC papers presented and the relevance of the research to issues concerning the poor (Interview with Mfenyana, 1999).

In Johannesburg in March 1994, WEG presented a paper on Women and Energy to the ANC Local Government Gender Task Force (LGGTF) which had partially funded the first WEG meeting. Rita Mfenyana, Khibi Mabuse and Nosizwe Nokwe were involved. This was their first exposure as WEG to a non-energy audience. The feedback they received indicated that they had provided effective information, and the women and

men present felt that they understood the energy issues for the first time. The audience said that they had not previously realised the politics of access to energy, and that they could, or should, be able to make choices with regard to energy services. The feedback /evaluation also suggested that all political structures of importance should be lobbied to accept energy on their agenda (Interview with Mfenyana, 1999). WEG thought that an appropriate follow-up strategy would be for WEG members to educate local government officials, provided there were some funds towards this. WEG was pleased with what it understood to be a growing interest in women and energy and was given the impression that funding would be made available. However this did not happen (Interview with Mfenyana, 1999, 2001).

Shortly after the WEG constitution was (provisionally) adopted on 17 April 1994, the first national democratic elections were held in South Africa (from 27 April 1994). Soon thereafter the Mfenyanas moved to Cape Town where Rita Mfenyana made her way to the EDRC offices and began to co-ordinate WEG activities from there. There was mixed reaction to this move which is described below. In 1992 the EDRC had begun a new project, the South African Energy Policy Research and Training Programme (EPRET), which changed the organisational dynamics both in terms of research content and staff composition irrevocably. Since EDRC took the lead in producing the new energy policy for developing areas and households, and the race and gender dynamics within EDRC were to affect the ability of women and WEG to contribute to the development of this new policy, a brief analysis of EPRET has already been offered in Chapter 4.

#### ***WEG phase two: August 1994 to May 1995***

From the beginning the WEG women operated under difficult conditions. In Johannesburg there had been little supportive infrastructure but Mfenyana's move to Cape Town meant more than a change of location. It heralded a shift in membership focus and activities. In Johannesburg WEG activities had centred around ANC educated engineers and the activities of NELF. Moving into EDRC's organisational culture presented a whole new set of challenges and the focus became research for policy work (Interview with Mfenyana 2001). This had a significant impact on the way WEG perceived itself and did its work.

Unwittingly Mfenyana had arrived at EDRC at a stressful time. The overriding consideration was the production, by the end of 1994, of the ambitious number of research studies to which EPRET was committed. However there were challenges to the organisation of race and gender presented by the trainees which involved numerous meetings which slowed work (Interviews with Hofmeyr 2001, Tyatya 2001, Mabuse 2002). EDRC/EPRET and WEG had a significant reciprocal impact on each other. Most of the women on the EDRC staff were members of WEG and WEG became a site for the continuation of EDRC struggles between the EDRC 'old boys' (founder members) and the newly employed men and women trainees (Interviews with Hofmeyr 2001, Mabuse 2002). WEG became infused with the challenges and the excitement as well as the anxieties and the resentments of EDRC members. Tensions are commonplace in organisations in transition. Soal, reflecting on this in 2000, is of the opinion that organisational culture ('the fabric of the "the way we do things here" ... where bad habits become entrenched and good intentions go awry') has a degree of inertia which is difficult to alter (Soal 2000: 13). Speaking from experience, Soal writes that 'race is an issue in all NGOs' (Soal 2000: 14).

The anxiety levels at EDRC reached extraordinarily high pitches at the time (James 1999; Interviews with James 1999, Hofmeyr 2001, Ward 2000). For this reason WEG's location at EDRC may have been a mistake. Part of reason for its demise was the over-commitment of some of the EDRC researchers. The move to EDRC shifted the critical mass of those closest to the WEG co-ordinator from engineers to researchers who were deeply involved in the development of new policy. WEG's focus shifted accordingly to research and policy development rather than technical expertise.

As WEG Co-ordinator, Mfenyana did not receive any official support. WEG's ideas had been well received in the ranks of the ANC, but after the first workshop there had been no further commitment of material resources through the ANC-WL. Mfenyana said 'they looked kindly at the efforts of WEG, however their priorities were women's economic empowerment which was not yet on the agenda of politics' (Interview with Mfenyana, 2001). She remembers that although everyone she met in NGO forums and in state departments thought that WEG was a good idea, she struggled to find funding to administer it. Mfenyana had hoped that after the elections, the parliamentarians, and especially the Women's Caucus, would see the value in what WEG was doing and assist the organisation. She thought that the Women's League, as the largest women's

organisation in the country, and the one with whom she was best connected, should have been able to assist, but it had problems of its own which it could not sort out and was paralysed in terms of assisting other women's organisations (Interview with Mfenyana, 1999). This meant that Mfenyana who did not get paid for her time, had to scramble for resources. James (1999: 25) records that EDRC provided space from which WEG could operate but it is clear that the co-ordinator felt isolated (she used the word 'squatter' in connection with her position at EDRC (Interview with Mfenyana, 2001). Mfenyana did not have a telephone, a computer or stationery and since there was no funding, WEG could not command these. She had to rely on the good-will of researchers and the facilities they lent her. This inability of WEG to open doors and access resources was a stumbling block and a reason for its demise later on.

Mfenyana's arrival met with mixed responses within EDRC. She was welcomed by some but largely ignored by the still all-white-male hierarchy. The latter failed to recognise the opportunity offered by this unusual woman with specialist skills and the women's group she had mobilised in the sector. Mfenyana and the notion of WEG were tolerated but treated as trivial (Interview with Hofmeyr, 2000). The significance of a women's energy group and its potential to contribute to the transformation of the energy sector was not capitalised upon by EDRC. James (1999: 25) notes that, while being located at EDRC had clear benefits and allowed WEG access to information about the policy making process which was being guided by EDRC, it also tended to shift the balance of power in WEG to women researchers and academics.

There was a great deal of work to do. WEG women were under great pressure to respond on a number of fronts; organisational change, political change and policy. Inside EDRC, women were trying to persuade the male hierarchy about changes needed in the organisation, challenging the 'masculine' research agenda, the methodology of EPRET and arguing for an affirmative action policy (Personal communication Makan, 1994). Outside of EDRC, WEG was committed to ensuring that political structures accepted women and energy on their agendas, while the political events of the country demanded that WEG turn its attention to policy making. All WEG members other than Mfenyana had (paid) full time employment in the energy sector and affiliation to WEG involved an additional responsibility and dual identities. A note in the files testifies to this. 'Women began to make a habit of introducing themselves as members of WEG in addition to their organisational status' (Facilitator's notes, 1995). The position of

activists and feminist researchers is complicated, for so long as activities undertaken are voluntarily, increased responsibility and less free time are the consequences of propagating and defending a cause. WEG members were no exception in resenting the fact that they needed to struggle constantly to have gender accepted as a category of analysis and that their work for WEG was not recognised or resourced (James 1999: 25).

Despite this, this phase saw much enthusiasm and participation from the growing WEG membership. Through their participation in the National Electrification Forum the WEG co-ordinator and her colleagues had raised the profile of women working in the sector. Networks initiated in Johannesburg were extended from the EDRC base. Women from community based organisations to parliamentarians and women in industry were mobilised to participate in WEG (Interview with Mfenyana, 1999). Organising as a group lent strength to the women's position and WEG began to create a national profile for itself.

In August 1994 the proposed WEG meeting to ratify the interim constitution and develop a plan of action meeting was held in Cape Town (Invitation to the ANC Local Government Task Force Workshop III: 'Women and Energy' Cape Town 27-28 August 1994). Tensions surfaced at the meeting with regard to the Draft Constitution which was 'biased towards technology' (ANC LGGTF and WEG 1995: 14) and the objectives of WEG appeared rather ambitious to the full membership. They were modified accordingly to read:

- To create linkages within three areas of knowledge on women and energy: energy needs as seen by women themselves; energy resources in the country; the technologies and institutions which make the energy available.
- To develop strategies for women's participation in the energy sector restructuring delivery at all levels: policy making, planning, implementation, use and evaluation of the sector. (Report on the WEG workshop 1995)

There were forty-seven participants, three of whom were men. The report declared the workshop 'an overwhelming success':



By bringing women together in this forum, Women Energy Group put women's interests in energy firmly on the national agenda. It was an excellent idea to mobilise women in this way, and the critical mass of women engaged in projects will have a significant impact on policy making, no doubt first as a lobby and a watchdog grouping, but later as energy specialists and professionals. Women's interests will be catered for in an increasing number of ways, and in the long term this will have a positive effect on the economy and constructive effect on the quality of life for all. (ANC LGGTF and WEG 1995: 15)

WEG members took every opportunity available to make themselves and their work known, and Mfenyana spent considerable time seeking potential funders so that they could extend their work. She took part in the Women's College field visit from 12-17 December 1994 which was funded by the Women's Committee of the Norwegian Council for Africa, who recommended in their 'Comments and Recommendations' (27.02.1995) that '... this group [WEG] as a possible recipient for possible support'. Although funding was not immediately forthcoming WEG received Norad funding for its workshop in November 1995 (Interview with Mfenyana, 1999).

By the end of 1994 EDRC was feeling the pressure to lead the development of new energy policy (Marquard 1999) and, according to an information sheet from a meeting on 1 February 1995, so was WEG. This in an interesting document which was sent to WEG members outside of EDRC. It solicits responses from other members but it came with a warning:

WEG meetings are held about once a month in Cape Town, but there's been very little communication with WEG members nationally so we thought it would be a good idea to get the information from these meetings to WEG members.... If you have any requests/suggestions please contact Rita or Wrenelle, just remember we have little capacity at the moment. (Women's Energy Group Information from WEG meeting held on 1 February 1995 at EDRC)

The political pressures of the time made it necessary to respond to the policy development process or be excluded indefinitely since no-one knew how policy would be subsequently managed and changed. Kathree articulated the anxieties of many when she said:

We have a government of National Unity, an Interim Constitution and a Reconstruction and Development programme for the betterment of all South Africans. If we women do not take advantage of this time, by making our demands heard, it will forever be a time and space lost to us – and will take generations to reclaim. (Kathree 1995: 26)

WEG felt this pressure. Inclusion on the team to write the energy policy discussion document was discussed at the meeting referred to, as was WEG's role:

There is a lack of clarity about WEG's role and its capacity, currently and in the future – questions are often raised about the range of issues that WEG should be involved in, whether WEG can take up research projects, employ people, support applicants for jobs, motivate women for training courses etc. These issues point to the urgent need for that Strategic Planning Workshop! WEG is in the process of applying for funds for the Workshop. (Women's Energy Group Information from WEG meeting held on 1 February 1995 at EDRC)

The workshop did not materialise immediately, but WEG continued what it saw to be its work, and further tensions arose in the process thereof. In March 1995 WEG contributed to the workshop entitled *Energy for Rural Development: Decentralising Control*, which was organised by the Sub-Directorate: Energy for Development of the DME.<sup>88</sup> It was called to consider the results of the first phase of the Biomass Initiative – Plant for Life (see Chapter 7), and plan for the future. The DME's intention was to engage in a consultative process to develop a programme of research for rural areas (Personal communication from Tony Golding, Deputy Director: Energy for Development, 11 October 1995). Although little came out of this programme, it marked a significant shift in the DME's research areas and indicated the internal shifts that had taken place in response to accusations of neglecting woodfuel. Participants at the workshop included researchers and representatives from NGOs, CBOs, Eskom and oil companies, the offices of the DME, the RDP, the Provinces and WEG. I have located three different versions of the objectives of the workshop: Williams et al (1996: ii); the

---

<sup>88</sup> The Department of Mineral and Energy Affairs changed its name to the Department of Minerals and Energy in 1995.

workshop report of Borchers and Hofmeyr (1995: 1); and a voice from community based organisations: 'a message to take back to their constituents who had mandated them to come back with deliverables' (Personal communication from Tony Golding, Deputy Director: Energy for Development, 11 October 1995).

The Biomass Initiative – Plant for Life programme was initiated by the DME in 1991 in recognition that fuelwood was likely to remain the primary source of energy in rural areas, even with improved access to other energy sources such as electricity, LPGas and paraffin (Borchers and Hofmeyr 1995: B-30). It was considered that a fuelwood security programme was needed to ensure the sustainable use of wood resources to provide a cheap and renewable source of energy as part of a broader, integrated energy provision strategy in recognition of, and aimed at resolving the rapidly deteriorating energy supply situation in many of South Africa's rural areas (Williams, Eberhard & Dickson 1996: ii). The programme encompassed various aspects such as assessing woody biomass resources, assessing patterns of energy use and consumption of fuels, as well as wood for construction purpose, evaluating tree production and delivery systems, disseminating information on tree planting, the commercialisation of fuelwood supply, and woodland management strategies (Williams, Eberhard & Dickson 1996).

There was a strong women's lobby at the workshop led by the CBO representatives who expressed their outrage at the 'gender blindness' of the programme. However the women participating in the meeting could not agree on a coherent position and strategy. Some, including an outspoken woman representing the CBOs and members of WEG, wanted to see the male dominated decision-making bodies challenged and a minimum of 40% of such committees to be comprised of women (Borchers and Hofmeyr 1995: 12, WEG Facilitator's notes, 1995). A CBO representative was concerned that there were so few women present: for example none of the RDP provincial offices had women representatives. On the other hand the WEG Co-ordinator wanted to see practical steps and concrete delivery to poor women prioritised so that women would have better energy supplies and choices in rural areas (Facilitator notes, 1995). Arising from this meeting the women requested a follow-up process consisting of a broad information dissemination process to reach far further than the workshop participants. They elected Yvonne Pati from the Women's Resource Centre, Marlett Wentzel from the DME and Ilne-Marie Hofmeyr from EDG to co-ordinate this (Borchers & Hofmeyr 1995: A-18).

The women's caucus at the workshop opened up a new discursive space and raised gender issues which, Mfenyana's notes from 1995 observe, 'resulted in marginalising female's issues'. By this she meant that the debates about quotas for women in decision-making positions had sidelined discussions about delivering energy services to rural areas. The workshop was not a WEG event, but WEG members noted how necessary it was not only to support other women but also to develop strategies for intervening on gender issues rather than just women's roles (Facilitator's notes, 1995). Both the strategic gender needs (changing the structures of power) and the practical needs of poor women (delivering energy services) had to be addressed. Finding a balance in discussion and deciding on the most appropriate channels and events to achieve this proved difficult (Facilitator's notes, 1995). It is interesting that South African women from local CBOs introduced the power dimension and that it drew reaction from ANC women. There was some disappointment that, although the women had caucused so strongly, few of their suggestions were taken into the mainstream thinking of any of the major organisations present. Despite its promises the DME proved unreliable with little capacity or will to address women and gender issues (Facilitator's notes, 1995). Mfenyana was of the opinion that WEG's presence helped to raise the profile of women in energy and rural development among policy makers and industry and served to extend the women's networks and knowledge of each other (Interview with Mfenyana, 1999).

In April 1995, WEG member Ilne-Marie Hofmeyr compiled a report, 'Energy and Rural Development: Cause for Concern or Investment', which drew on the workshop, her own research on farmworkers' energy needs (Hofmeyr 1994) and other EDRC work and presented this paper to the Parliamentary Portfolio Committee (PPC). In the same session Amita Makan, also on behalf of WEG, submitted a critique of the energy budget from a woman's perspective. This was an important and innovative intervention not to be repeated until 1997 when a Women's Energy Budget was produced by James and Simmonds for the Institute for a Democratic South Africa (Idasa) series edited by Debbie Budlender (1997). Makan identified the 'basic problem confronting the energy sector' as women's exclusion at all levels of decision making and spelled this out:

Women are not represented as 'stakeholders' in the energy sector despite the fact that they are the primary users and managers of energy at the household level. Women are also clients for energy services and appliances and in rural areas they

are the chief suppliers of energy. Until now; women have been passive subjects in energy planning and the research process. Although gender equality is enshrined in the constitution, women are largely excluded from energy policy and planning research, from identifying research needs, policy formulation, planning energy services, implementing supply distribution, controlling resources, administering services, and drawing up energy budgets. (Makan 1995: 1)

Makan's primary concern was that the 'budget lacks any real commitment to meeting the aims of the Reconstruction and Development Programme (RDP), specifically regarding those objectives pertaining to energy and electrification' and the intention of the RDP that future energy policies should concentrate on meeting the basic needs of the poor. Her primary criticism was similar to Eberhard's in 1989, that in terms of resource allocation and spending. The Atomic Energy Corporation (AEC) still received some 68% of the budget and R311million provided in direct subsidy (Makan 1995: 2), while those projects which would contribute towards meeting the RDP objectives received only 2.9% of the vote (Makan 1995: 2). Makan argued for new thinking and a new perspective on the budget and suggested that this might be facilitated by a transformation of the DME personnel which would improve women's structural position and bargaining powers. She pointed out that all the staff of the Chief Directorate were all still white and while 43% were white women, the majority (77%) of women were employed in administrative posts. Among other recommendations she called on the DME to review its human resource policy and practices, to involve more black people at all levels in the organisation, to provide training and bursaries to encourage women to enter science and engineering careers, to ensure policy makers and planners understood gender issues and incorporated these in all projects, and to institute a more transparent process for the compilation of the budget (Makan 1995: 3-5).

It is by no means clear that meeting RDP targets would have addressed women's needs. While the RDP acknowledged discrimination against women (ANC 1994: 21), the section on energy (written largely by EDRC, Personal communication Eberhard, 1997) contains references to redress and redistribution (ANC 1994: 31-33) rather than gender or equity for women in the energy sector. Since women constitute the majority of poor, they may have benefited from attention paid to the poor, but these benefits may have been differently accessed by men and women and women's particular conditions would not necessarily have been addressed. Recognising that gender had not been adequately

addressed in the RDP (it had been tacked on at the end), a further important contribution was requested from WEG in April 1995. It came from Ms Mmatshilo, the RDP Gender Co-ordinator, whose office requested the Women's Energy Group 'to assist in making submissions on women, energy science and technology to the RDP Women's Empowerment Document' (fax from the Ministry in the Office of the President to Rita Mfenyana, 3 April 1995). This was followed by a circular letter of explanation from Pregs Govender, Member of Parliament and head of the Women's National Empowerment group, soliciting the assistance of women's group in compiling a policy document on the women's empowerment programme for the RDP office. The request was for organisations to suggest 3-5 practical steps they would like to see their relevant departments initiate in the next twelve months as well as ways by which progress towards these steps could be monitored. The WEG Co-ordinator's response was a call for 'time and resources' rather than practical steps to be taken but she also submitted the two papers presented to the PPC above, and, in an accompanying letter dated 21.04.95, summarised the broad areas of concern as:

- the need for research to focus on women;
- the need to build women's capacity to deal with issues of energy at all levels;
- the need to integrate issues of energy into the housing, health, education, production and environment programmes;
- the need to encourage women to enter the fields of energy and technology as a career.

### ***WEG phase three: May 1995 – October 1995***

The third phase of WEG was characterised by the group's participation in the energy policy process. At a WEG meeting at EDRC in May 1995, the first priority was to identify all the policy processes taking place at the time and ensure that women were involved in them. In order to attain greater representation of women at all levels of the sector part of WEG's strategy was to nominate women onto the Electricity Control Board, the Board of the Minerals and Energy Policy Centre, the management committee of the National Electrification Forum, and the team writing the Green Paper (Makan 1995). The only successful nomination was that of women onto the Energy Green Paper Team. Nonetheless there were WEG women interviewed for the other positions and

WEG continued to increase its profile. Thuli Madonsela (1995: 30) argues that women's networks do not function with the same efficiency as men's:

A subtle factor in some appointments is the operation of old boys networks and a political reward system. A substantial number of people appointed come from a long and close association with either political organisations or specific people they serve. Old boys networks have been in serious operation and reaping measurable rewards in positions where public nominations and constituency support of certain people's candidacy are important. Women seem to be left out of the influential cosy networks.

WEG's aims and objectives included capacity building for its members but in practice it was unable to provide this support. On the other hand it was successful in raising the profile of women in the sector and having women included in decision-making forums. In June 1995 three events in the WEG calendar demonstrate how widely WEG was becoming known and how far it was extending its influence. WEG participated in study trips on rural energy research methods in Tanzania and renewable technology assessment courses in Zimbabwe thereby extending its information and support network. In Zimbabwe Mfenyana met Dr Joy Clancy, one of the founder members of *Energia*, an international women and energy network which was established that year (1995) (Interview with Mfenyana, 1999).

At this stage Mfenyana had been in Cape Town and at EDRC for a year and, for a variety of reasons, expressed in her characteristically restrained way, began to feel disillusioned. Mfenyana found it difficult to raise funds to administer WEG, despite what she considered the obvious relevance and need for its work. Also, after her initial excitement about EDRC, she began to wonder why the research papers and reports sat so stolidly on the shelves and what it would take to get them to the people they were intended for. She had not resolved this when she noticed that 'something didn't quite work between the technicians and the researchers'. The researchers she referred to were the women at EDRC, the technicians were the (mostly) ANC trained women engineers. Mfenyana believed that although the engineers benefited from their interaction with researchers, there was not reciprocal interest shown from the EDRC researchers. In addition Mfenyana was surprised how few black people there were at EDRC, a male engineer from Ghana and three women out of a staff of about twenty-five (EDRC



1994). When she raised her concerns 'it was suggested that we invite the technicians to a meeting – but it was not clear what we would invite them for ...'. Another reason for her alienation was that the policy focus of EDRC's work started dominating the women's group. Although the demand was compelling, policy intervention was not the initial vision for WEG. Mfenyana felt WEG wasn't going anywhere, and in 1995 accepted an ANC posting to Kimberley (Interview with Mfenyana, 1999).

Mfenyana was in Kimberley for four months as head of the Helen Joseph Women's Centre where her responsibilities included monitoring projects and overseeing the budget. However there were tensions, conflicts and questions about why a white woman had come to the project. 'It just didn't work...' so she returned to Cape Town. To her relief by the time she returned the process of writing of the new energy policy had moved on and other WEG members had become involved. Although Mfenyana was available and interested in continuing in WEG (and found funding for the November workshop), the momentum had moved away from her and had been taken up by researchers at EDRC (Interview with Mfenyana, 1999). At the end of 1995 Mfenyana resigned from WEG, which marked the disintegration of the group. However prior to this was a period of intense activity.

WEG's participation in the development of the content of the new energy policy warrants full discussion and should be understood and analysed in its broader political context. This is provided in Chapter 8. The following section of the chapter explores WEG's contribution to the Green Paper writing and consultative processes.

The recognition of gender issues and of women as a category of users who should be included on the policy agenda was largely due to WEG's work at NELF and EPRET. The DME had had very little experience of either policy writing or public participation processes, was slow to initiate new policy and uncertain about how to conduct a public process as was required of each sector (Marquard 1999). Marquard (1999) provides full details. In brief, a decision was made that EDRC should write a document for the DME which presented scenarios of possible policy directions and their likely consequences. Two members of WEG, both at EDRC at the time, were nominated onto the committee responsible for writing this document which became known as the Green Paper discussion document. This was an important step in recognising women's ability and right to contribute as researchers. Unsurprisingly the women took responsibility for what was traditionally women's work: the section on human resources and the section

on household energy issues (James 1999: 36). This reflected where women were located at EDRC: a woman had been appointed manager of human relations and women researchers were taking responsibility for domestic energy issues. In addition these constituted areas in which it had been agreed that there should be an integrated gender analysis in the new policy (James 1999: 36).

It was recognised by WEG members at the time that confining WEG's input to traditionally female spheres of domesticity and caring would limit WEG's status and contribution to other sections. James (1999: 37) quotes Ward in 1998:

WEG had a meeting to discuss how to deal with the discussion document. We felt that we needed to ensure that women also wrote other sections of the White Paper and that we did not confine ourselves to household energy issues. Although some of the WEG members were engineers and worked for certain industries like BP and Shell, they did not have the skill to develop policies, and the women with policy analysis skills did not have the skills to write other sections.

One of the objectives in the WEG constitution was the transferral of skills among members, but there were few practical arrangements for how this could be done between women living and working in different places with full-time work and domestic commitments. Consequently it was not achieved to any great extent. Although it was intended that WEG should critique the entire Green Paper discussion document from a gender perspective, this was not possible. In the end WEG's contribution to just two sections served to entrench the gendered division of energy interests and, as James pointed out, 'limited the potential to address oppressive gender relations in all areas of policy' (James 1999: 37). Mfenyana's comment was that (a lack of) money and resources were involved, and that the engineers 'fully appreciated the insights into the policy making process which they got from EDRC women' (Interview with Mfenyana, 2001).

The outcome of the writing process, the Green Paper discussion document, was a lengthy exposition of the status of the energy sector that also described key issues and presented various scenarios for debate and discussion. It was envisaged that once the document had been made public, comments would be invited and consultations held to discuss its contents. WEG members were invited by the DME to attend the workshop to plan this series of consultations, the first in the history of the sector (Marquard 1999:

35). The organising committee and the DME envisaged the consultation process would consist of a number of once-off workshops for various stakeholders such as big business, and 'small users of energy'. These would culminate in a National Energy Summit to be held in Pretoria in October/November 1995, to which all these stakeholder groups would be invited. It was hoped that the National Energy Summit would produce consensus on goals for the sector (Marquard 1999: 35).

At this planning workshop WEG questioned the DME's planned consultation process, and raised questions about not just the design and aims of the workshop, but, in the light of the Department's history, who should decide on these. WEG also objected to the single event intended for 'small energy users', arguing that the process was unrealistic (Marquard 1999: 35). They argued that unlike sectors such as water and land, there was little history of poor communities mobilising around energy issues (James 1999: 38). In actual fact there had been several communities mobilising around a demand for electricity and non-payment issues in urban areas on the Witwatersrand (WIP 36: 1985; WIP 42: 1986). James herself had come across a nascent mobilisation demand for grid rather than wind electricity expressed in rural areas (James 1995) but neither WEG nor the DME appear to have been mindful of these. In any case WEG's other arguments held. Firstly that the 200 pages of technical jargon which constituted much of the discussion document was not written for those unfamiliar with the energy sector and many would be unable to digest it. Secondly that one meeting was not sufficient to mobilise and prepare previously disenfranchised people to participate on an equal footing with powerful stakeholders who had experience and resources (James 1999: 38). Thirdly WEG pointed out that the process did not make provision for women as a particular group of stakeholders (Marquard 1999: 35). Lastly the process was criticised for confining the contribution of this constituency (the poor) to a discussion of household energy policies, since other policy areas, such as the governance of the sector had implications for all South Africans (Interview with Ward quoted in James 1999: 38).

The DME realised that it should rethink the consultation process and subsequently commissioned WEG to design and manage a process which would include the previously marginalised through conducting workshops which would mobilise and prepare 'the poor' for participation in the National Energy Summit. Mabuse remembered that WEG had to push the DME 'very hard to make money available for

this exercise. They wanted us to do it out of our own resources and caring for ‘the poor’. They didn’t see it as their obligation’ (Interview with Mabuse, 2002). Within WEG the acceptance of the commission caused some unhappiness. WEG was not constituted to do contract work and did not have any particular decision-making process other than by consensus at the workshops (Interview with Mabuse, 2002). Decisions were generally taken on an ad hoc basis by members who happened to be present. The problem was that this time, employment and payment were involved. This changed the nature of the relationships between members in a network of volunteers. It introduced a need for new structures for decision-making and made a distinction between employers and employees, voluntary members and paid members.

The transition from an organisation of volunteers to an organisation which includes paid workers is fraught with difficulties and WEG was no different. The WEG members outside of EDRC were not consulted when the commission was accepted and even some of those at EDRC felt they had been excluded from the decision and possibility of paid work. As it happened, the contract of Sarah Ward, who had been active in the writing of the Green Paper discussion document, was not renewed by EDRC and she was subsequently appointed to head the WEG Green Paper process team. It was important that Ward was outside EDRC and able to tap into community resources and opinions. EPRET was concerned strictly with secondary research and fieldwork was considered unnecessary (Personal communication Eberhard, 1997). Ward worked with another white woman, a professional facilitator who was not a member of WEG, and deliberated regularly with the members of WEG in order to design and conduct the consultation process (Interview with Ward, 2000). While it would appear that tensions between members increased with the commission they are not readily spoken about.<sup>89</sup> On the whole WEG members saw the need to be involved in the Green Paper process and were supportive of Ward and her facilitator, providing them with information and acting as a sounding board (Interview with James, 1999). There was however little time to reflect on internal dynamics, strategy or process. The National Energy Summit was set for November 1995 and there was little time to waste.

---

<sup>89</sup> None of the women interviewed were willing to talk about the tensions between WEG women at EDRC, particularly between black and white women, but it seemed to be an under-current that was glossed over in order for the policy process to proceed.

James provides an incisive account of the WEG consultation process based on her own experience at EDRC, an interview with Ward and various reports (James 1999: 38-43; Ward 1995). By all accounts the workshops were groundbreaking (Personal communication Basson 1997; Marquard 1999; Interview with Ward, 2000). Apart from the outcomes of the workshops, their importance lies in the example they posited of a participatory research process, and the important questions they raised about decisions which have to be made when confronted with a limited budget, a short time frame, a formidable task and research ethics. Compromises and short cuts seem inevitable but which ones should they be?

The consultation process was required to investigate what poor people (and especially women) thought were the solutions to their energy problems. The challenge was how to arrive at that point within the constraints listed above. Workshops for community organisations were arranged in three locations around the country and incorporated delegates from five provinces; the Western Cape meeting included representatives from the Eastern Cape. The Northern Province meeting included delegates from Mpumalanga and the final meeting was held in KwaZulu-Natal (James 1999: 39). These meetings were not aimed only at women, but included small-scale farmers and poor urban and rural men and women running small enterprises (EDG 1995). The project was conceptualised as more than enabling previously marginalised people to contribute to the policy process, it had a longer term aim of developing a methodology and methodological tools which could be used to foster a process approach to policy development (EDG 1995, James 1999: 39).

The WEG approach was professional. An epistemology of the energy sector and of adult education underpinned the design and development of their workshops. The basic design hinged on the development of a series of energy problem chains which could be broken by deliberate policy interventions and the primary question to workshop participants was what these interventions should be. Because of the time constraints and the significance attached to solutions for the policy paper, a critical decision was made to provide participants at the meetings with the (WEG's) initial analysis of the problems rather than eliciting these from participants. James (1999: 39) gives the example of the policy problem statement associated with paraffin: 'paraffin is unsafe' because it results in indoor pollution, poisoning from ingestion and multiple fires. 'A chain of causality was then developed, creating space for policy interventions to break the chain at

different places' (James 1999: 39). This approach was carried through into the workshop design with different members of WEG and EDRC involved in producing similar energy problem chains for wood, LPGas, electricity and coal. At each of the workshops participants were asked to prioritise five policy solutions per problem chain which were then discussed at the joint preparatory workshop before the Summit and submitted in writing to the White Paper editorial committee (James 1999: 39). Although the framework for the EPRET project had been Integrated Energy Planning there was little evidence of a holistic approach to the sector in the policy development stage, and, despite Makan's paper (1994) and other criticism, energy supply and sub-sectors were still being treated quite separately.

The people who attended the WEG regional workshops were politically aware, conscientised and articulate. They were interested to learn about energy and the policy making process, and sufficiently astute to ask whether they were being invited to go to Pretoria to rubber stamp a process over which they had no control (Interview with Ward, 2000). The WEG facilitators could not guarantee that this would not happen, but it was agreed that together they would prepare to argue their case (Interview with Ward, 2000).

Some community groups could not think how to address women's access to energy other than by ensuring women were appointed to all decision making bodies. Others recognised that widening access to energy depended on their access to other rights. They proposed far-reaching measures: that women must be able to own land, women must have the same rights as men to inherit land, oppressive customary laws must be changed, and women must be represented on all development structures (Interview with Ward 2000, James 1999: 40). These are further explored in Chapter 8.

The question for those concerned with participatory practices as WEG professed to be, was whether the analysis presented to the workshop participants, the interpretation of the sector, and definitions of the problem statements, inhibited the participants' contributions to problem solving and policy development. Although the workshops did not have a hurried feel to them, it was in a sense a race against time to prepare people to participate in the Summit, and the organisers justified their method in terms of the demands that were being made for policy solutions rather than a discussion of problems (Interview with Ward, 2000). James (1999: 39) records the discomfort of some WEG members with the degree of control and direction exerted through the workshop design,

but it is probably counter-productive to speculate about what revealing insights may have surfaced in the ideal situation with sufficient time for the CBOs to discuss and develop their own analyses of the sector's challenges. Implementable policy solutions evade the sector and it was felt to be important to focus on these (Interview with Ward, 2000). Ironically, the haste in preparing for the Summit proved unnecessary. Subsequent political events delayed the process and there was a long interval before the White Paper was finally passed in 1998. In retrospect sufficient time for a process where participants analysed their own problems would have been vindicated, but under the circumstances while the participatory processes may have been flawed, there was a real attempt to include previously excluded groups.

In preparation for community consultations WEG had produced an abridged and accessible version of the Green Paper discussion document and had it translated into local languages (Afrikaans and Xhosa). Both versions, the simplified and the complete, were distributed by the DME. Public response was solicited and a number of forums and high-level meetings were organised where stakeholders were consulted. Who was to facilitate these stakeholder discussions and the sessions at the National Energy Summit was another question of concern to WEG. The DME had appointed professional facilitators at the CSIR to conduct the process. Practically all chairpersons and facilitators of the meetings for the oil companies, the electricity sector and big business were white men. The principle of equality meant that such opportunities of power and control should be shared rather than monopolised but the organisers only became aware of this when WEG pointed it out, rather late in the day. In order to rectify the situation and balance the race and gender composition of the facilitators (in what has become known as 'to reflect the demographics of country') WEG was invited to nominate facilitators. This renewed the debate within WEG about whether women should accept last minute inclusion and contribute from within mainstream (predominantly male) practices, or whether being tacked on at the end was simply insulting and women should not 'rescue' and 'legitimise' gender-blind processes by their acceptance. This is not an issue that can be permanently settled; some WEG members accepted, others refused.

The various separate stakeholder consultations culminated in the National Energy Summit held at the Council for Scientific and Industrial Research in Pretoria on 3-4 November 1995. It was attended by 450 people. A few days before the Summit a joint preparatory meeting of the 150 community participants was held to enable delegates to



discuss and strategise their participation in the important meeting. The Summit was an awkward process. It was difficult to envisage how 450 people with diverse interests, speaking different languages, and with utterly different knowledge and experience of the energy sector were going to produce a consensus position on energy policy in two days. They did not. To begin with the meeting was top heavy: the Minister, Mr 'Pik' Botha was a member of the National Party appointed in terms of the Government of National Unity. The DME officials and the stakeholders with large vested interests in the petroleum and electricity sectors were all still relatively conservative white men. Together they weighed in at some 300 representatives with considerably more experience and skills than the 150 delegates from community based organisations. Only a cursory glance was needed to reveal that the power relations were not equal.

However, the representation and agreement of the previously disadvantaged or 'the poor' was essential for political legitimacy, and, as events played out, this granted the CBOs substantial power of their own. The community representatives participated as planned at the National Energy Summit. When they found that they were being marginalised, they were ignored when they raised their hands, they were interrupted while speaking, and/or their points were not recorded, they acted at once. At the first plenary the community representatives took issue with the technical language used which excluded them, argued that their voices were not being taken seriously by the 300 more powerful delegates, and threatened a walkout if matters were not rectified. This threatened to derail the process; it would certainly have delegitimised it. At a time when inclusive processes were considered a necessity and the energy sector was lagging behind the others, the meeting could not afford to ignore the warning. It was forced to take greater cognisance of the CBOs, even if, as will be seen in Chapter 8, this lasted only for the duration of the public National Energy Summit meeting.

The policy development process continued after the Summit with the appointment of an Editorial Committee to write the Policy Paper. WEG paused to reflect. The Green Paper consultative process had been demanding and time consuming. Although only two WEG women conducted the workshops, several WEG members within EDRC were heavily involved. Notes from the WEG workshop held later in November 1995 indicate that there were 'very stressed, very tired EDRC people. No space had been allocated for extension work in EDRC. There were only EDRC and DME people involved in the process. Nobody else from WEG did any work except in the reference group'

(Facilitator's notes, 1995), and perhaps most bitterly 'The DME got a lot of work for almost nothing and WEG takes the blame for inadequate consultation process ie people not well-enough prepared for the workshop' (Facilitator's notes, 1995, Interview with Ward, 2000). The EDRC researchers had been permitted to work on the consultation process in EDRC time 'provided they did not expect payment for their time' (James 1999: 38) but the reality was that the WEG work was done over and above their EDRC research. While most members agreed that WEG's participation in the Green Paper process and the National Energy Summit had been necessary and worthwhile and had prepared them for the next step (which was the drafting of the White Paper for the Minister's approval), being under-resourced had taken its toll on the organisation (Interview with James, 1999).

There were however a number of benefits from participating in the policy drafting process. WEG had learned a great deal through the consultation process, members had built their own capacity, they had gained recognition for the importance of consultative processes from EDRC as a whole and from some staff at the DME. The workshop design had been commended by important people at the DME (Facilitator's notes, 1995). In addition WEG had become known to an increasing number of communities and had established a potential national network of people who had some grounding in the causes of and solutions to energy poverty. Taking responsibility for the process contributed to WEG's growing profile, and involved marginalised people in policy-making in the energy sector. WEG members listed a couple of points salient to their experience in participatory research:

- It is unrealistic to expect that marginalised people, and particularly previously oppressed women, should be able to think through, consolidate their positions and engage with powerful groups over something as complicated as energy in a short time. However, a beginning has to be made, and once this has happened it should be followed up over time, through energy agents, extension workers, teachers, civic and business organisations. There should be ongoing educational and consultative processes organised by the sector.
- WEG should not have been confined to commenting on traditional domestic and household issues and mobilising the poor as this diluted their focus from gender to social equity and entrenched their position low down on the status ladder.

- WEG needed more women members who were experts in technical fields, which, it was pointed out, was part of its initial focus.
  - WEG needed time to think carefully about how to articulate policies that would address gender inequality and the quality of life of women, and lobby for these.
- (Adapted from the Facilitator's notes, 1995)

To which it could be added that not only do the marginalised and disadvantaged have to be prepared to speak, but others have to be prepared to listen. The latter had not yet happened (Annecke 2000: 2).

Marquard (1999: 35) notes that the consultation process was unprecedented in the energy sector and WEG had accomplished something unique. This was the first time a section on domestic and household energy use had been included in policy and it encompassed some of the more progressive research findings since the late 1980s. Yet women as a category were not consulted or represented as a constituency of domestic energy users but only as part of 'the poor'. For a country in the throes of transformation, insisting on civil society's participation in planning and policy making and women's right to equality (and having this entrenched in the Constitution of 1996), this lack of acknowledgement of women as users of domestic energy services is remarkable. Gillian Rose (1991: 11) has suggested that citizenry itself is a masculine construct and thus public participation privileges male participation. In a feminist critique of the public sphere and citizenship as masculine, she argued that:

the notion of citizenship in a locality has a specific idea of space. It's not just that citizens gather in particular public spaces, within which women have for centuries been 'a silenced population', but, and more problematically for geographers, I think, that the knowledge of the kind of space through which citizens move is itself masculine.

This would go some way to explaining the invisibility of women, particularly rural women who live in particularly patriarchal spaces.

All the reports from the stakeholder workshops, the community consultations and the National Energy Summit were handed over to the Editorial Committee for consideration in the Policy Paper. Chapter 8 deals with the inclusion/exclusion of WEG's recommendations.

### *WEG phase four: November 1995 – 1996*

The beginning of the fourth phase in WEG's history was marked by a workshop held in Cape Town from 11-12 November 1995. It was funded by Norad, the Norwegian aid agency so that twenty-five WEG members from all over South Africa and representing a variety of organisations from NGOs to the DME, were able to attend. Although this was far from the intention at the time, it was the final WEG gathering. Mfenyana resigned and from this time onwards WEG's activities had less to do with research and more to do with organisational change. A full report of this workshop was filed by Wrenelle Ruiters (1996) for the funders. The intention of the workshop was for 'WEG structures and resources to be more responsive to the dynamic and complex energy sector policy environment' (Invitation to the WEG workshop 1995).

Professional facilitators took the membership on a long and reflective journey of WEG's past in order to extrapolate lessons for the way that it should function in the future (Facilitator's notes, 1995). In one of the exercises the facilitators compiled a set of observations which reflected the extent to which the women felt overwhelmed by the enormity of what they had undertaken. Their comments ranged from the exclamation that 'Lots of energy is needed to deal with the energy sector!' to a more lucid analysis: 'In our desperation to be recognised we've been involved in everything. We need to be more strategic in the future and think through the consequences of our involvement in the sector' (Facilitator's notes, 1995).

As far as research was concerned there was a call for WEG's work to be recognised as part of the normal programme work of research organisations. Becoming involved in the energy sector *per se* had been a salutary experience for many WEG members. They had learned the importance of the role of energy in the national economy and in the growth and development of the country, that it is a high profile sector full of vested interests and powerful people, many of whom had not been receptive to the needs of marginalised majority, and deliberately excluded such groups from policy discussions. WEG also learned about their own naiveté, how barriers to entry and resistance to change often came from 'progressive men' and actors who had been believed to be supportive of WEG's aims. The women had discovered their own inadequacies: that they could not keep up with all the sub-sectors and institutions (social forestry, oil, electricity, coal, atomic energy) and that there was a strong need to build their own capacity as well as that of others (Facilitator's notes, 1995).

WEG had been involved in a number of initiatives and could celebrate its impact and successes. Among those it listed were:

- WEG had brought together a broad spectrum of women i.e. from communities, industry, government, and research institutions.
- WEG had put the issue of women's importance on the energy agenda.
- WEG had exposed women to the Electricity Control Board as well as other institutions.
- WEG had proved to people in the sector that there are competent women working in it.
- EDRC recognised WEG's work as participatory, and participatory methodology developed a high profile and acceptance in the sector.
- There had been an increase in the participation of women in decision-making processes in the energy sector.
- Eskom had agreed to fund WEG initiated research, there was talk of a DME women and energy project and WEG members had been consulted when men were appointed onto policy forums. (Compiled from Facilitator's notes, 1995)

Strains in WEG began to show when individual members maintained that they did not feel supported within WEG. Some of the tension between members concerned the uneven contributions made by different individuals, some felt over-burdened and under-supported and others felt excluded. There were also tensions related to place of employment and contracts: those who had secure work and access to resources and those who did not, and how each used (or did not use) her membership to further her own career and gain access to critical stakeholders (Interviews with James 1999, Hofmeyr 2000, Mabuse 2002). The WEG workshop spelled out an ambitious vision: 'To transform the energy sector to make it more female friendly in order to address the needs of the poor in urban and rural areas' (Ruiters 1996). It was interesting that at this stage WEG had shifted its position and resolved 'to challenge, educate and change male dominated structures' as well as bring marginalised people into mainstream activities (Facilitator's notes, 1995). More ambitiously still, WEG wanted to help bring about a shift in the energy paradigm. Their objective was to ensure that all forms of energy were equally valued in contrast to the exaggerated public emphasis on electricity, the disguised dominance of petroleum companies which were in private hands, and the

neglect of firewood, low-smoke fuels, coal and other fuels of the poor. Integrated Energy Planning in WEG's hands would deliver a holistic approach (Facilitator's notes, 1995).

EDRC, with EPRET's emphasis on secondary research, and the intense pressure to produce papers, was not necessarily an appropriate location and context for such hands-on activities as WEG committed itself to and highlighted the position and stresses of researchers who are also activists but whose research topics and activism frequently do not coincide. It was not as if the researchers were engaged producing rigorous relevant research on women/gender and energy issues on a daily basis. Inserting women/gender issues into their work was a constant struggle which exposed them to ridicule and having their studies trivialised (Interviews with James 1999, Hofmeyr 2000, Ward 2000).

The final objective of the workshop was to develop a funding plan for 1996-1999. WEG agreed that since Mfenyana was unable to continue in her voluntary capacity, a part-time, paid co-ordinator would be needed. Demonstrating once again their propensity for drawing up lists, WEG drew up a plan for hiring a new co-ordinator and a list of tasks for her. Ruiters undertook to write a proposal in conjunction with a report on the workshop which she did. After a year it became redundant.

1996 could have been a busy year for WEG. There was certainly a place for such an organisation. WEG had begun to receive a number of requests and invitations from near and far from organisations that perceived a common interest with WEG. However the members did not manage to streamline WEG's activities, share the responsibilities more equally, prioritise functions which could be reasonable carried out, or agree to the central thrust of its business – women, gender or females and their link with energy. It was clear that a few members were carrying most of the weight of the work and that there were some tensions about how to get the work done over and above ordinary work and other demands. With Mfenyana resigning, Mabuse in Johannesburg, and Hofmeyr, Ward, Ruiters and Makan leaving EDRC in rapid succession, the critical mass that had held WEG at EDRC disappeared. The White Paper process (Chapter 8) absorbed the remaining energy of a few members. WEG's outputs for the year 1996 were limited to the workshop report, letters and lists. By 1996 the ANC's authority had been well established, state policies were being put in place, career paths were being mapped out and international funding was drying up. In 1997 the WEG account was closed and

WEG came to an end although some women continued to call themselves members of WEG as late as 1999 (James 1999).

### **In summary**

The chapter explores how WEG originated, what WEG set out to accomplish, some of the research work that it did and the ways in which it made the research results known to different constituencies from the Parliamentary Portfolio Committee and the DME to community based organisations. WEG began as a woman engineer's perception of the need to insert women into the energy sector and ensure that they had the technological expertise necessary to be on an equal footing with men at the National Electrification Forum (NELF) and developed into group which contributed in various ways to the development of new policy. Initially WEG had a practical orientation and little theoretical underpinning, assuming a common commitment to the notion of a link between women and the energy sector and expressing the need for women to become visible and articulate in mainstream energy activities, whether these were production, policy, planning or implementation. Although the group drew together exiles and South Africans, WEG was conceived of by an ANC woman coming into South Africa from exile who had a different experience of organising women, and whose approach was quite different to that of women working from within South Africa.

Inside the country the links between women and energy were beginning to be described, and the studies of the early 1990s did this by examining poor women's use of energy in the context of their every day lives. Energy was understood as just one of many resources which were required on an every day basis, the access to which was constrained not only by the gender division of labour, but also by the structural position and powerlessness of poor women (Annecke 1992; Ross 1993; James 1995). These studies suggested that women's rightful place in the energy sector was to be achieved not only through improving access for poor women but also by challenging the gender blindness of energy planning and the dominant power relations prevalent in the sector (Makan 1994).

When the exiles and the South Africans co-operated in founding a network to support women in the energy sector, fundamental questions about positions and tactics to address women's marginalisation kept bubbling up. The question of what it meant conceptually and theoretically to be a women's energy group was not discussed, so that



a common understanding was never established. Whether to prioritise women's strategic needs (through tackling gender relations) or meet women's practical energy needs (through improved energy services) was never resolved. This resulted in some members of WEG finding themselves at odds with others concerning the most important issues to address. This was most evident at the Rural Development workshop where it was not clear whether the aim was to improve energy services and alleviate women's immediate burden, or to concentrate on quotas for women to serve on decision making bodies in the belief that this would address energy needs and empower women in the longer term. The use of *women*, *gender*, or *female* in highly individual and arbitrary ways to denote different, but undefined, categories relative to the energy sector indicates this confusion in WEG documents. It served to diffuse rather than consolidate the network's purpose.

WEG's goal was to link policy makers with those on the ground for whom policy was being made. Thus its membership spanned politicians, researchers, community based organisations, industry and activists. In practice, those closest to the WEG co-ordinator, that is NELF representatives in Johannesburg and EDRC researchers in Cape Town, provided the organisation with its direction. WEG took on board many of the dynamics of the organisation in which it was housed. During the EPRET project, the EDRC was a hive of activity, buzzing with powerful intellects and important work to do. It was also fraught with race and gender tensions as it, like so many other organisations, sought to come to terms with what democratisation meant for those in power, while those who had been previously disadvantaged found their voices and began probing the boundaries of the new opportunities. WEG became infused with both the challenges and the excitement and the anxieties and the resentments of EDRC members. For this reason the location at EDRC may have contributed to its demise, which appears to have been caused by over-commitment on the part of a few, a lack of clear priorities, a lack of resources and the co-ordinator's disillusionment and resignation.

WEG relied heavily on Mfenyana to champion the women and energy cause, co-ordinate all the demands made and work to be done, and have her ear to the political terrain (Facilitators notes, 1995). Vargas describes conditions in Peru which resonate with South Africa's and the stresses in WEG. There had been a new wave of feminist activity in Peru in the 1970s, the results of which could be observed in the number of

new women's groups and creative activities whose progress was uneven and lifespans varied:

Moments of progress would be suddenly met by apparent deadlock. There were tensions, notably between the need to consolidate our own internal work and at the same time respond to the growing complexity of women's demands in the wider society. (Vargas quoted in Davies 1987: 42)

Some of these new groups in Peru survived (and Vargas herself made a bid for a seat in the new parliament), but most, like WEG, shrivelled.

Funding, or rather a lack of it, made it difficult for WEG to operate. It was dependent on the unpaid labour of the co-ordinator, good-will use of facilities at EDRC and the voluntary time of its members. Despite the co-ordinator's impeccable record, close links to the ANC-WL, and the acknowledged usefulness of the organisation, only limited funding (for the first workshop) was forthcoming from the ANC, besides which, as Mfenyana knew, the WL was pre-occupied with problems of its own (Interview with Mfenyana, 1999). The Women's National Coalition (WNC), an umbrella organisation for political parties and women's cultural, church, business and other organisations (Lessing 1994: 21; Madonsela 1995: 27) which may have assisted WEG, was in a similar position, 'It is of great concern to us as women parliamentarians that that the Women's National Coalition is on the verge of collapse' said Brigitte Mabandla (quoted in Kathree 1995: 21). Donor funding became more difficult after 1994, and a women's support network had little appeal. Ruiters noted after a meeting with the Ford Foundation on 7.12.1995 that 'generally funders do not like funding networks' and advised WEG to describe itself as an NGO and request funding for *projects* or *particular activities* rather than request core funding – although this was what was needed.

As WEG grew it developed a profile for itself and sought out opportunities to use its research and reports to lobby for changes to process and policy making and the place of women in the sector. It established a series of networks and contacts but these do not appear to have supported it. Rather further demands were made on WEG members to supply information and support other women (Interview with James, 1999). Energia, the international women and energy network whose years of experience in developing

countries may have been of assistance, was formally established only in 1995, at the time when WEG was waning.

Meintjies (1996) has explored women's struggle for equality during the time of transition. Fester (1997), Seekings (2000) and Taylor (1997, 2000) among others have begun an analysis of the nature of social and women movement(s). None offer a satisfactory explanation for WEG's short sharp life. Mfenyana is of the opinion that WEG's dissolution was not due to any internal or inherent fault of the organisation but that both its emergence and demise were organic responses to the political and socio-economic conditions of the time. WEG had its time and served its purpose (Interview with Mfenyana, 1999).

WEG made a significant contribution to raising the profile of women in institutions such as Eskom, the oil companies, the DME, EDRC and MEPC. It created spaces for exploring different ways of doing research, experimenting with participatory processes and capacity building and ways of inserting these into policy making and education and training for women. WEG is still talked about and referred to, the challenges it posed to mainstream energy thinking are acknowledged as still unfulfilled (Mlambo-Ngcuka 2000).

## **CHAPTER 7**

### **Women, gender and energy research in the 1990s: a critique**

Apart from the three theses and WEG there were several other women/gender and energy initiatives during the 1990s and this chapter examines some of these. Firstly, although there has been no official audit to determine the magnitude of this improvement, the number of women in the energy sector increased considerably between 1990-2002. Not all of these women were researchers and very few of the women researchers conducted studies that had a women/gender component. The chapter begins by describing briefly the growth in organisations dedicated to energy research and continues through an examination of the gender-blindness of the major research programmes aimed at understanding and improving access to energy for the poor: the EPRET programme; the Biomass Initiative, and to a lesser extent the Rural Electrification and Social Determinants programmes. This despite the increase in the number of women researchers. However there was also an expansion of research concerned with women/gender. The remainder of the chapter is devoted to examining the issues raised by researchers investigating women/ gender issues in research projects during the 1990s.

EDRC remained a significant force in the energy sector during the development of the new White Paper on Energy Policy. This was eventually passed in 1998 but it was no longer the only institution doing progressive energy research. By mid-1994, the path-breaking policy research programme (EPRET) had been concluded. The locus of progressive energy research moved from the EDRC to a brother organisation, the Minerals and Energy Policy Centre (MEPC) headed by Dr Rod Crompton, which had been established in Johannesburg, and to the many independent consultancies which sprang up at the time in response to the great demand for research and policy work. There was substantial change in the gender compositions of these organisations, which began to employ a number of women researchers from a variety of backgrounds. After 1992 the number of new energy organisations included the Palmer Development Group (PDG) based in Pretoria and Cape Town, the Energy and Development Group (EDG) in Cape Town, project-based organisations such as Peer Africa who were involved in

energy efficient housing, and a number of commercial solar system installers from 1995 onwards. To date none of these organisations or projects have had a specific women and/or gender focus. An exception is the MEPC which introduced a gender and energy portfolio in 2001 which has been led by Dr Hesphina Rukato, Tieho Makhabane and Khamarunga Banda in rapid succession.

As mentioned, the increase in the number of women did not mean that all women doing research were interested in gender/women. In fact the majority, at EDRC and elsewhere, were not (Simmonds 1997; Clark 1997; Seeling-Hochmuth 1998; Tyani L 2000; Wamukonya 2000). In Chapter 5 the first three theses were examined for characteristics of feminist research and the extent to which they addressed research issue raised by feminists in South Africa. The women doing the research after 1994 did not necessarily identify themselves as feminists, nor were they necessarily aware of feminist research issues. Literature from this period is analysed in terms of international women and energy debates which were becoming known, rather than feminist criteria. The women engaged in women/gender and energy research South Africa came from a variety of backgrounds. They shared a concern about the subordinate position of women and a desire to contribute to changing this. How far they have been able to make a difference is debated in the next chapter. This chapter focuses on some of the more interesting concerns raised by women doing this energy research. Some of the concerns involved assessing appropriate methodologies and concepts and defining key terms, such as *domestic, household energy* and *multiple fuel use*.

### **EPRET (1992-1994) and gender**

The EPRET project was designed 'in recognition of the problems currently experienced in the household energy sector, and of the potential for effecting real improvements in these conditions' (van Horen 1993: 1). The programme was directed at identifying policies which would widen access to basic energy services for the urban and rural poor at the household level. The findings had, as was intended, a major impact on the new domestic national energy policy when it was written in the following years. The analytical framework selected to deliver *equity* was Integrated Energy Planning (IEP). The underlying principle employed in integrated energy planning is that some fuels may meet some energy needs more cost effectively than others. Thus '*all* supply options

should be given equal attention and should be evaluated in finding the optimal way of meeting end-users' energy demands' (Eberhard & van Horen 1995: 149).

The framework was contested within EDRC for *not* affording all energy sources equal attention, and for being 'gender blind' (Makan 1994: 5).<sup>90</sup> Neither the different energy carriers nor the different users received a fair share of attention from the EPRET programme. From the beginning an undue bias towards electricity was evident. Wood use did not enter the framework at all (albeit that the Biomass Initiative might have supplied data for the latter), and a paraffin survey was added only towards the end (McGregor 1994). IEP did not deliver intra-household equity either, papers on gender and affirmative action including an audit of women were hastily added at the end (Interviews with Hofmeyr 2000, Ward 2001).

After the event, these faults were acknowledged by the leaders of the programme, who identified three main areas of weakness in EPRET. One was a bias towards electricity, another was a lack of comprehensive micro studies of energy demand as a significant component of analysing household energy patterns (Eberhard & van Horen 1995: 203). Such analyses would have enabled the assessment of the likely thresholds in the transition from one energy service to another. For example, attention to the point at which electric lighting might be substituted for candles and the potential gains to be made, might have thrown more light on intra-household relations:

The project would have been strengthened considerably by one or more studies which focused explicitly on the dynamics of household decision-making around energy use.... Such a micro-based study should consider not only the microeconomics of different energy options facing households but also social determinants of energy demand. These are the factors such as those described in Chapter 3, related to gender dynamics around decision making for energy and appliance purchase. (Eberhard & van Horen 1995: 203)

---

<sup>90</sup> Makan was not the only critic. Jessica Hirst quotes Dr Flora Mosaka-Wright, who had returned from exile and was appointed a Development Project Leader at the Development Bank of South Africa, criticising EPRET for inadequate treatment of women's energy needs and praising WEG for promoting more inclusive energy planning (Hirst 1996: 10).

In terms of the bias toward electricity, the adoption of an end-user perspective in developing policies made it clear that electricity connections do not necessarily meet all the household's energy needs and could not provide the panacea to energy poverty (Eberhard & van Horen 1995: 149). The EPRET social researchers had shown that social and economic factors such as unequal gender relations and low income levels may limit the extent to which the benefits of electricity can be equally shared by household members. Towards the end of the project there was an attempt to correct the bias towards electricity in the project by commissioning studies on hydro-carbon energy use (McGregor 1994) and to correct the lack of social detail by commissioning work on the special case of farmworkers (Hofmeyr 1994).

'In a third case, namely the issue of gender relations around energy use, the need for a separate study was identified only much later in the project and only a small amount of funding was available for a small study,' state Eberhard and van Horen (1995: 203). They acknowledged Makan's critique of the IEP methodology as 'gender blind' (on the grounds that it fails to go beyond the 'household' as the unit of analysis and to look inside the household), but defended their choice of framework, arguing that it was necessary:

to supplement conventional IEP approaches with a more gender-sensitive approach... there is no easy way of differentiating between individuals.... Rather it is suggested that an exercise which is genuinely concerned with improving equity at all levels of society, and which therefore necessarily requires an assessment of gender equity should be adopted.... This may be best accomplished by including a separate cross-cutting study...such as the one produced on environmental issues. (Eberhard & van Horen 1995:205)

The authors acknowledged the role of gender relations in decisions about energy as discussed in the work of Makan (1994: 2, 8), Annecke (1993: 49), James (1992: 1) and Ross (1993: 44). They admitted that the practical examples of gender relations influencing expenditure patterns on fuels and appliances which are raised in these studies have implications for policy makers and should therefore have had more attention paid to them. They also suggested that gender equity could be promoted through participatory planning, and that since there was very little tradition and experience with rural participatory planning in South Africa, greater attention would



have to be paid to consultation and participation in order to provide 'affordable and sustainable energy services which promote rural development' (Eberhard & van Horen 1995: 203).

Having offered some apology for the lack of hydro-carbon (paraffin and LPGas) and gender studies, Eberhard and van Horen genuflect towards fuelwood too, acknowledging that fuelwood studies have generally been of the quantitative kind and even those are under-represented in the literature (Eberhard & van Horen 1995: 148). They summarised the situation with reference to the EPRET emphasis on electrification noting that:

electrification will have little, if any, observable effect on the rate of fuelwood depletion in rural areas, for two main reasons. First fuelwood collection is only one among many uses for wood or causes of woodland degradation, so reduction in fuelwood use due to electrification would have a small effect. Second it is unlikely that such a substitution will occur to any significant extent in the first place, especially in the case of poor rural homes where small cash incomes will not be diverted to purchase electricity for as long as free supplies of wood are available. Consequently, the popular view that electricity will solve the rural 'deforestation' problem is unrealistic and simplistic.

Finally Eberhard argued that EPRET's work resulted in an appreciation of primary research at the household level including gender relations and subsequently 'in-depth studies have been initiated which focus both on the quantifiable aspects of the costs of different supply options and on the more qualitative dimensions of social relations around energy use' (Eberhard & van Horen 1995: 203). He was referring to two important national research projects spawned by EPRET and designed by EDRC staff to close some of the gaps revealed by the EPRET programme. Neither succeeded in having a gender focus, although both contributed significantly to the body of knowledge on domestic energy use in South Africa. The first was *The Role of Electricity in the Integrated Provision of Energy to Rural Areas*, the second *The Social Determinants of Energy Use in Low-income Households in Metropolitan Areas*. Both ran from 1995-1997, making a significant contribution to increasing the number of women conducting research in the energy sector as well as the number of women who were affected by the research. The significance of these major household energy programmes lay in their

magnitude, in terms of numbers of researchers and organisations involved, the information produced, and the time spent (they were three year longitudinal studies). They were important because they influenced the manner in which domestic energy problems were perceived and solutions were sought, even if they did not always recognise the differential effects which different proposals and solutions could have on women and men. Several of the papers are included in the discussion that follows the critique of the Biomass Initiative. The latter provides a timely reminder that while this chapter refers to a period of burgeoning women and energy activity, in reality this applied to only a handful of papers and projects, while mainstream energy research continued uninterrupted by such considerations.

### **Biomass Initiative – Plant for Life 1991-1996**

The Biomass Initiative – Plant for Life must rate as one of the greatest expenditures for the least returns ever in the Energy for Development Directorate. It cost at least R5.5 million (DMEA 1994: 38) and the reports lie unread on the shelves of the DME. A workshop to report the (incomplete) findings was held in 1994, another in March 1995, and a final report on Phase I was finally issued, two years late, in 1996. As mentioned in Chapter 6, the programme was undertaken in 1991 when the DMEA recognised that it had neglected its responsibilities with regard to the consumption of wood for the poor, and launched an ambitious, multi-million rand project, in recognition that fuelwood was likely to remain the primary source of energy in rural areas, even with improved access to other energy sources such as electricity, gas and paraffin (Borchers & Hofmeyr 1995: B-30; Williams, Eberhard & Dickson 1996: ii).

The programme was to consist of two phases, planning and implementation. Only the planning phase was eventually completed, which consisted of an assessment of biomass aimed at determining the situation in the country with regard to indigenous wood resources and their use for energy supply and other purposes. The second component, which should have consisted of a number of pilot projects to look at various ways of addressing rural energy needs through the planting of trees and other strategies, was never started (Borchers & Hofmeyr 1995: B-30).

Woodfuel assessments in other parts of the developing world were beginning to include women (Bajracharya et al 1990). However in South Africa no consultation of women or focus on women as primary users of woodfuel was planned or conducted. As a

component of the Biomass Assessment, the EDRC was asked to conduct a review of all existing rural household energy surveys. Ward (1995) reviewed some 100 studies, compiled a bibliography and developed a database which contained information on the content, nature and quality of the studies as well as numerical data drawn from the studies on energy consumption, income, expenditure, appliance ownership, and time spent meeting energy needs (Williams et al 1996: 13). A range of other information covering demographic and socio-economic parameters was included and the database was used to analyse fuel use and consumption, household demographics and related socio-economic data in each region (Ward 1995). Ward was an active member of WEG at the time, and later became the WEG co-ordinator of the Green Paper consultative process, but as she said, the biomass information was not prioritised for use in the EPRET project, and her bibliographic study did not turn up literature which focused on women (Interview with Ward, 2001).

It is difficult to understand the omission of women in this study. At the Rural Energy Workshop held in March 1995, women representatives led by women from CBOs voiced their anger at being neglected. Unfortunately women themselves did not have a coherent strategy on how this omission should be rectified but they did demand representation on decision making forums and delivery of services to women to consider the results and plan for the future. The women's participation in the workshop was reflected in the report but was not taken any further. The establishment of a National Energy Policy Forum was mooted which would, among others responsibilities, 'ensure that rural women's interests are adequately considered in policies: and a priority issue was to improve access to woodfuel by women' (Borchers & Hofmeyr 1995: ii). However the programme stalled at this stage, partly due to general confusion over whether the Departments of Forestry, Agriculture, Environment or Energy should bear primary responsibility for policy which addresses sustainable wood for fuel use. The steering committee, representing the different sectors involved, comprised the Department of Mineral and Energy Affairs, Waters Affairs and Forestry, Agriculture, Welfare and Population, Environment Affairs, Land and Regional Affairs, the Development Bank of Southern Africa and the Energy and Development Research Centre at the University of Cape Town (Williams et al 1996: ii). In 1989 Aron et al (1989) had cited the management of the wood fuel question as a 'a major stumbling block'. It remained so.

The other reason that the Biomass Initiative stalled was political. In the course of the programme it had become unfashionable within the DME to promote woodfuel as a solution to the energy poverty, which was seen to have been caused by apartheid and should be addressed through equal access to what the middle classes had. The slogan 'electricity for all' had become the ANC call for redress, equity and energy after 1990. Wood and paraffin were no longer considered suitable fuels in a modern society and economy and were not acceptable options to the DME (Personal communication Sibiya 1997, Mandlazi 1999). This despite the findings of the EPRET programme that electricity would not be sufficient to form the basis of household energy policy and that the place of all fuels currently in use, including wood and paraffin, needed to be addressed. In any case it would have been politically difficult to justify any other energy service since white owned commercial and industrial premises and households had long been electrified and there was spare capacity within the generation system. However this reluctance to acknowledge wood as part of the energy sector – albeit for reasons different to those of the apartheid government – has slowed progress towards solutions considerably. When the new White Paper was passed in 1998, the government committed itself to 'affordable energy services' but made it clear these would be to 'modern and convenient fuels' (White Paper 1998: 28), not necessarily electricity, but not wood and paraffin either.

The appointment of a new minister in 1999 saw an acknowledgement of the extensive use of paraffin with an important announcement just before the November 2000 elections of the removal of VAT from paraffin and the introduction of free basic electricity services (50kWh per month). Wood and paraffin are still seen as interim fuels, whose use is not to be supported, but which should be *replaced* by more modern fuels (Mlambo-Ngcuka 2000).

Much of the information on which such decisions about paraffin and electricity use are made emanate from the two national programmes mentioned above, one of which researched the use of paraffin, LPGas and coal in urban households. Many of these households had been electrified and used electricity for certain applications as well. The other programme mentioned researched the socio-economic impacts of the national electrification programme in rural areas. Together the studies provided an overview of energy use by low-income households that had been previously unavailable.

## **The Role of Electricity in the Integrated Provision of Energy to Rural Areas: 1995-1997**

The *Role of Electricity in the Integrated Provision of Energy to Rural Areas* became known as the Rural Electrification (RE) project.<sup>91</sup> It was a three year longitudinal study initiated by an engineer, Grove Steyn, at EDRC as a follow-up to the EPRET programme. Despite Eberhard and van Horen's assurances, the original design had no gender component (Eberhard & van Horen 1995: 203).<sup>92</sup> However it did see women researchers moving into positions of project leadership. It was headed by Cecile Thom, assisted by Bronwyn James and during the first year, Pamela Ntutela. The RE programme sub-contracted a number of independent researchers and organisations, primarily women, these included Laura Bedford, Colleen Crawford Cousins, Adele Gordon, Ilne-Marie Hofmeyr, Maria Mbuli, Sizakele Mkhize, Fiona Ross and Maria van Gass. This increased the pool of women with energy research experience considerably.

The abbreviation of the title to Rural Electrification was appropriate; the *integrated provision of energy* largely fell away. The programme spent most of its time researching the impact of electrification on different sectors in rural areas: agriculture, small and micro enterprises, health and the electrification of clinics (Bedford 1998a), education and the electrification of schools (Gordon 1997; Bedford 1998b). It explored a variety of supply options such as selection criteria for rural electrification projects, financing, limited supply capacity (2.5 A, 8A and 20A) and conducted pre- and post electrification studies, moving well beyond the boundaries of households (EDRC 1998). Although there was no particular gender focus in the design, women, as teachers and nurses, were central to the use of rural connections in schools and clinics, as well as key beneficiaries of household connections. Women also featured prominently in several of the internal Rural Electrification papers especially those done by James (1995, 1997, 1998) and subcontractors outside EDRC (Hansmann et al 1996). One of the most interesting

---

<sup>91</sup> Funding sources are always important: this programme was funded by Norad, the DMEA and Eskom.

<sup>92</sup> Rose Mensah-Kutin is currently completing a PhD thesis on the gender impacts of electrification in Ghana, which will demonstrate how the RE project could have been done.

papers was produced by Colleen Crawford-Cousins (1998) in which she used a fictitious embodiment of 'rural people', a Mrs Mohlamonyane, as a discursive device 'to indicate gender (and class) as analytic variables rather than pinpoint energy as a "women's issue" or to categorise "rural women" as an undifferentiated group,' and to interrogate a number of assumptions about rural development perspectives, national policies and development practices (Crawford Cousins 1998: 2). The paper was one of the last in the Rural Electrification project at EDRC. It was commissioned by Bronwyn James to consolidate the knowledge of rural electrification on rural livelihood strategies and to analyse and evaluate the extent to which the electrification programme had the potential to meet rural development goals and contribute to poverty alleviation and improving the quality of life (Crawford Cousins 1998: 1). The study asked questions of the kind faced by rural people which generate crucial questions for energy planners. Crawford Cousins began to conceptualise a development framework for rural electrification and recommended a framework for implementation. It is included in the discussion later.

The results of this programme once again bore testimony to EDRC's status as a centre of research excellence, albeit it predominantly gender-blind. Over forty useful reports were produced by the three-year longitudinal study. In addition there were regular workshops and seminars presented to disseminate the research results. An international peer review team comprising Elizabeth Cecelski, Gerald Foley and Venkata Ramana, commended the programme and had little to add to the work that had been done. There was little discussion about gender by the peer review team. Gender was not part of Foley and Ramana's expertise, and Cecelski was satisfied that some women's issues had been highlighted. James believed that the review team had not understood her approach to gender or the general neglect of a gender component in the project (Personal communication James, 1999).

### **The Social Determinants of Energy Use in Low-Income Households in Metropolitan Areas: 1995-1997**

This programme which became known as the Social Determinants (SD) programme was originally designed by Ross as her doctoral thesis<sup>93</sup> but she handed it over to EDRC

---

<sup>93</sup> Ross completed a thesis about women's stories in the Truth and Reconciliation Commission in 2000.

who charged Makan with the responsibility of expanding the research area to a national project and ensuring that it was 'gender sensitive' (Interview with Ross, 1999). This was a significant step in women assuming responsibility for designing a large research programme (Personal communication Makan, 1994). The Social Determinants project was funded by the DMEA, a further sign of their commitment to understanding the role of women and the socio-economic aspects of energy use in urban areas. The DMEA was determined to find an anthropologist to lead this ambitious longitudinal study (Personal communication, Golding, 1994). Professor Caroline White was appointed. At the time she was at the University of the Witwatersrand but soon thereafter became Director of the Centre for Policy Studies, taking the SD programme responsibilities with her. This augured well for the project which was intended to guide domestic energy policy (Personal communication Makan, 1994; EDRC Annual Report 1995-1996: 10). The connection amounted to very little. White, an independent thinker but new to the energy sector, and by her own admission, neither a feminist nor a policy specialist (Interview with White, 1999), did not give strong guidance to the project and by 2000 the final co-ordinator's report was still outstanding.

White assembled teams consisting of primarily male anthropologists and sociologists but junior women were employed too, further expanding the number of women energy researchers. In Gauteng, White worked with sociologist Owen Crankshaw. In Durban Sean Jones of the Anthropology Department at the University of Natal led the project. In East London a group of anthropologists led by Leslie Bank at Rhodes University conducted the study assisted by B Mlombo and L Lujabe. In Cape Town, EDRC fielded the only all black team, led by Makan for the first year, and succeeded by anthropologist Monga Mehlwana, assisted by Nomawethu Qase, when Makan left EDRC in 1996. Each team brought a somewhat different approach to the exercise. White (1996) in her co-ordinator's report, mentions the benefits derived from the collegial interaction allowed by the project. This national study differed from the survey based household energy studies. It endorsed much of the work and fuel-use patterns suggested in the early 1990s as well as bringing new knowledge about domestic energy use, to light (Jones & Aitkin 1996; Meintjies et al 1996; Bank & Mlombo 1996; Mehlwana & Qase 1996).

Finding ways to use the results of the Social Determinants reports to inform policy was a problem. At the final evaluation meeting of the national project held at EDRC in



February 1998, White appealed to EDRC researchers with all their policy experience to assist in policy formulation 'because we are anthropologists not policy people'. This disjuncture between social research and policy making is explored in Chapter 8.

It is time now to examine the concerns raised by women doing this and related women/gender focused research. The South African women/gender and energy literature for the decade 1990-2000 can be divided into the following:

1. Monitoring evaluating and assessment of energy use patterns, in particular pre- and post- electrification, this would include reports based on fieldwork: paraffin and wood studies, farmworkers as a special category, the social determinants and rural electrification reports, the comparison between the satisfaction of grid and off-grid users, energy and income generation (James & Ntutela 1998; Hansmann 1996; EDRC 1998; Annecke 1998; Qase 1999);
2. Conceptual papers – reflections about gender issues and/or policy. This would include contributions to the Green and White Papers, Makan (1994) on a gender framework, James's work on exploring the silences in development theory, and the possibilities of empowerment in the electrification process (James 1995, 1998a), Crawford Cousins' (1998) consolidation and interrogation of rural electrification knowledge, Annecke's (2000) concept paper for the UNDP, and the gender framework suggested by Hooper- Box et al (1998);
3. Project reports on solar installations: Solar Home System, solar geysers, solar cookers. (Some of these are discussed in Chapter 9);
4. A miscellaneous category which would include Ruiters' audit of the location of women in the sector (1995), the women's energy budget (Makan 1995; James & Simmonds 1997) and WENGOSA (Hirst 1996).

The South African papers are included in the *Women, Gender and Energy Annotated Bibliography* (Annecke & Makhabane 2002). A few interesting methodological questions, analytical tools and trends in findings, not commonly raised in women/gender and energy literature (Feenstra 2001; Annecke & Makhabane 2002) have been selected for discussion.

## Key trends in women/gender and energy research

**Challenging the paradigm**, that is, the predominant development paradigm of economic growth to alleviate poverty and fitting energy for development into this model, is not common within the international literature (Feenstra 2001) or in the African women and energy literature (Annecke & Makhabane 2002). It has, however, been regularly questioned (James 1995; Crawford Cousins 1998; Kloot 1999; Annecke 2002). I have argued that:

The serious question is around the proposition of economic growth for poverty alleviation. If we look only at the 40 million people in South Africa, not the rest of Africa, we should begin with the knowledge that about 50 percent are poor (May 1998). At a conservative estimate 35 percent are unemployed (Statistics SA 2002) and, depending on which survey or head count you believe, some 10-20 percent are HIV positive. Then imagine an extraordinary increase in the annual growth rate to, say, 10 percent. Bearing in mind that South Africa has trouble maintaining a 3.5 percent growth rate, how many of the poor could be lifted out of sub-standard living conditions by such an extraordinary growth rate and how realistic is the possibility of achieving this? (Annecke 2002: 12)<sup>94</sup>

There is not much political space for thinking about other paradigms and possibilities right now but suggestions are being made (Sachs 2002). With economic development efforts not able to stem the tide of increasing poverty (Krafchik & Streak 2001), other possibilities need to be explored.

**The gender of the researcher** was an issue raised in the early 1990s and several studies have argued the merits of using both women and /or men to collect data. Whether men or women are more able to collect sensitive data, and whether some people and information are more available to one researcher than another has also been considered (Annecke 1993; James 1995; Hooper-Box et al 1998: 10). The early studies were careful to justify their all-women research teams and they did indeed have some success in unpacking the dynamics of women's energy use by using only women (Hooper-Box

---

<sup>94</sup> An elegant, sophisticated and weighty argument of this and related questions is to be found in the work of Charles Meth (2002).

et al 1998: 9). On the other hand women were less successful in interviewing men and there was generally very little information solicited from men in these studies. The household surveys had previously been done by men only, then by men and women (Davis & Ward 1995, Ward 1995). However, there is a marked difference between those trained in gender sensitive data collection, such as the male anthropologists engaged in the Social Determinants project, who provided interesting ethnographic material from women (White et al 1997; Bank 1996; Mehlwana & Qase 1996), and the non-gender sensitive information of others (Swanepoel & de Beer 1992). Training rather than sex made the difference to the manner in which data was collected and interpreted. By 1997 the GTZ/DME solar cooker review team (PDG 1997) was self-consciously using men and women fieldworkers but the fact that there were men/women involved did not ensure a women's or gender perspective (which was why a review was required: PDG 1997: 5). Clearly framing appropriate questions and training of fieldworkers in gender sensitivity in data collection and analysis, is as important as whether they are women or men. It would appear that more such training needs to be done (Clancy 2000).

**Motivations for conducting gendered analyses** came from researchers (James 1993; Thom 1993) and peer reviewers who included Cecelski (GTZ 1997). In the early 1990s it seemed fair that in order to redress the invisibility of poor women in the energy sector, women should be the focus of domestic energy investigations. Annecke (1993) argued this with reference to women's roles as primary users and managers of domestic energy, as did James (1993) who added that in rural areas women should be the focus because they were in the majority due to the migrant labour system. Makan (1995: 15) stated the case for women even more strongly: 'women should be central to research.... Energy policies that do not place women at the centre of analysis will remain flawed and ineffectual'. Crawford Cousins justified her women protagonist's stance by arguing that there are more women than men in rural areas, that women as a group are poorer than men, and that the majority of energy-related domestic tasks are performed by women (Crawford Cousins 1998: 2).

Thom provided more structural arguments, describing the influence of the gender composition of households in the following ways:

- Female-headed households are less able to ensure that remittances are received from 'distant workers', or to mobilise labour for local tasks.
- The ability of female members to earn incomes in urban areas (ie their mobility) is restricted by the age of children, husband's preferences, and the availability of grandparents or surrogate parents.
- The administration of public process in general, and of land tenure systems in particular, tends to favour men over women. In outlying districts women have no access to public institutional proceedings in general, while in more urbanised areas their degree of access tends to be haphazard and unreliable. (Becker quoted in Thom 1993: 7)

Others have argued that neither making women visible nor understanding structural inequalities is sufficient. What is needed to address inequities is to map the manner in which positions, power, work and resources flow between men and women. They argue that there is a need to observe, examine, deconstruct or explore reciprocity in domestic arrangements, and men's (and children's) roles in the household, in order to determine energy use patterns. Furthermore they lament the lack of this information which constitutes a major shortfall in women and energy studies thus far (Ross 1994a; Mehlwana & Qase 1995; James 1999; Annecke 2000, Banda & Makhabane 2002).

In the international literature, the motivation for focusing on women and energy has included women being most affected by wood energy use, high prices and poor stove technologies (Hulscher 2000); addressing the goals of the Rio Energy Programme and the Beijing Platform of Action (Cecelski 1995); the need to address the crisis of women's time (Cecelski 1998); as a means to satisfy donors and ensure the efficiency of projects (Skutsch 1995, 1998); as a means to address poverty alleviation and the advancement of women (Karlsson & McDade 2001); the need to address women's income generation (Batliwala S & Reddy 1996; Khan 2001) in order to meet the needs of men and women (Cecelski 1995) and in order to address the absence of women in the sector due to educational inequalities (Lewis 2000).

**Participation and participatory research** remain at the top of researchers' agendas, with concern expressed for transparent research methods to be developed which would respect energy users, encourage their participation in research and produce usable

results (Thom & Kidgell 1995: B-26). Thom and Kidgell argue for more qualitative, participatory and action-research approaches to be used, which include:

- in-depth-interviews;
- participatory research methods (resource maps, 24 hour days, Venn diagrams, seasonal calendars, wealth and well-being maps, transect walks, triangulation for validation);
- participant observation;
- diary or schedules kept by respondents;
- focus group meetings, workshops and community meetings.

However they caution that the use of participatory methodologies and 'techniques' in themselves do not constitute a participatory approach (Thom & Kidgell 1995: B-26). Moreover, there is a problem in using the results of participative research effectively.<sup>95</sup> One of the consequences of using participatory methods appears to be the volume of information which various exercises elicit, and triangulation (usually) endorses. Researchers are frequently unable to relate the rich detail directly to the question at hand or unable to interpret and analyse the rich descriptions in ways which would be useful to the research topic. The inclusion of diagrams and field-notes as appendices is a normal practice in participatory research documents (PDG 1997), and is a way of attempting to give a voice to the participants in the research process. However, material frequently remains in appendices; not analysed and not discussed and it is left up to the reader to have to search the appendices for further information and perform further analysis (PDG 1997: Appendices). This means that fairly simple analyses and conclusions are drawn, not very different to those attained through structured questionnaires. Such results raise questions about the purpose of such exercises, particularly when one of the more useful observations of the research team referred to above was just that, an observation. The team remarked that 'the impact of solar cookers and grid connections will be minimal in small communities in the face of extensive substance abuse and unemployment; so that

---

<sup>95</sup> May Sengendo of Uganda argues that Uganda has found ways of quantifying participatory research data sufficiently effectively to be used in policy making (Personal communication Sengendo, 2002).



until the social context and ills are attended to, economic development from technological improvements may be constrained' (PDG 1997: 12).

Participatory methods have been widely used to solicit gender information (Mehlwana & Qase 1997; Annecke 2000; Green & Wilson 2000; Wentzel 2000) but as the Gender Review of the solar cooker project discovered, participatory methods are not inherently gender sensitive (PDG 1997). Indeed the effective involvement of women in these processes has still to be secured (Thom & Kidgell 1995: B32) and the data analysed and used in ways which would contribute to advancing conditions for women. This is further discussed in the following chapter.

**Unpacking power relations** is a complex task. The researchers conducting the Gender Review noted the difficulty of establishing sufficient trust 'to gather in-depth information around sensitive subjects such as income, livelihood and survival strategies, power relations and methods of resistance', particularly over a short period of time (PDG 1997: 17). If participatory methods are not sufficient, how does one investigate gender relations at the household level and specifically if there is limited time available? Close observation and questions around decision making in the household are the most common methods used by South African energy researchers (Ross 1994; Wentzel 1999). Analytical tools such as Govind's (1995) and the Harvard Analytical Framework are barely known or used in South Africa,<sup>96</sup> but in any case, while they make women's activities visible, they do not elucidate reciprocal arrangements; the 'give-and-take' of power (Harrison 2000). The international women and energy literature has not shown the same preoccupation with hierarchical relations of power as the South Africans have, and provides little guidance in this regard.

By 2000 participant observation had provided a number of richly descriptive accounts of women and men's roles, of interaction and spheres of influence and power exercised at household level. In the early 1990s it had been argued that women were the primary 'managers' of household energy (Annecke 1992, 1993, Makan 1995); women decided on and ensured fuel was available and how it should be used to cook food, heat water and irons, and/or the available space etc, and therefore exercised specific power in this sphere. However, as Ross's study (1994) argued and others confirmed (Annecke 1993;

---

<sup>96</sup> Cecelski et al (2001) in Namibia is one such instance, PDG (1997) attempted another.

James 1995; White et al 1996), women's roles were not identical and the roles of women of different status, as well as men, and girl and boy children, differed greatly among households and within communities. The researchers acknowledged the difficulties of generalising gender relations in the early 1990s:

One of the questions asked by the study (commissioned by the DMEA) was whether gender relations influenced access to or the management of different types of domestic energy.... The response is: 'Yes, *but...*'. And much of this report is devoted to qualifying and elaborating the 'but' – the roles which men (sons, lovers, uncles, nephews, brothers-in-law and husbands) played in the households were not always the stereotypical ones.... On the whole men's voices are missing from this study. This is a shortcoming which future research may seek to rectify. (Annecke 1994: 3)

Some energy studies have been able to go beyond noting the relations of power manifest in the division of labour to analysing the relational aspects and how these function. One example of this is James's study at Mbibi where she attempts to account for the way power is held in the household and the effect this has on whether woodfuel or LPGas is bought (James 1993). Another is in Mehlwana and Qase's analysis of how being employed and earning her own wage allows a particular woman to 'circumvent her husband's control over the household's allocation of financial resources' (Mehlwana & Qase 1996: 32). They also note the reciprocity involved in traditional man-and-wife relationships:

In their shared backyard dwelling, Thangana's responsibility is to pay rent and buy food while Maggy does cooking, cleaning, washing clothes and ironing. Maggy explains this division of responsibilities in this manner: *isandla sihlamba esinye* (a hand washes another). (Mehlwana & Qase 1996: 38)

Ross (1998: 2) showed through careful observation and deduction, that the dynamics around space and gender have an impact on the financial viability of the electrification programme. She constructed her argument by observing that the readyboard (supplying the light and plug socket for a stove) was located in the room used for leisure and entertainment, where cooking was not an acceptable activity. Thus the woman moved her activities out of the room to the only other space available – outside, and resumed



cooking on a fire. The result was that electricity was used for only lights and television. Since cooking makes the heaviest demands on electricity this reduced the consumption of the household significantly, affecting the cost-recovery of the programme which depends on minimum levels of consumption (Ross 1994: 2). Ross suggested that if the spatial location of the electricity is an important consideration in connecting new households, and if internal equity, that is, the power balance between men and women in homes is to be improved, then women or women's groups should be consulted about appropriate location prior to installation, and/or newly connected households should be supplied with extension cords from the readyboard to other rooms in the house if necessary/ possible (Ross 1994: 4). Eberhard and van Horen (1995: 138), having noted that the utility would also benefit from this research, commented:

By incorporating such considerations into the design and planning stage of distributors' activities, the benefits of electricity can be transferred more effectively to women, who stand to gain much from the supply in terms of access to labour-saving electrical appliances.

The South African energy researchers have shown awareness of the complexities involved in introducing gender into their studies as a relational dimension of the difference between the men and women, including the power relations that are systemically embedded in all social practices and institutions (James 1995). Recognising that women are not isolated beings, or a homogenous category, operating according to their own set of rules and desires, but that they function (as do men and children) in relation to norms and values, opportunities and constraints (Makan 1995: 6, 192), means being aware of other relational dimensions in women's lives too. Women are differentiated by these and other factors such as race, class, religious beliefs, age, status, geographic location, level of education and culture, and all of these should be taken account of in the design, implementation and assessment of energy use and projects (Makan 1995: 6). Mehlwana and Qase argue that gender, age and income earning status are the primary determinants in decision-making pertaining to energy, and proceed to provide examples from case studies in which each of these in turn (age, wage earning, and gender), is demonstrated to be the determining factor in energy services or appliance decisions and choices. One of these observations was of a household where children were of an age which allowed them to exert sufficient

pressure to decide on the purchase of a television rather than a kettle (Mehlwana & Qase 1996: 39), which seems a remarkable choice.<sup>97</sup>

White's report raised an important issue on gender inequality and electrification. She warned that the suggestion that electricity provision plays an equalising role (World Bank Report 1995: 6) should be questioned:

In East London the picture was a much more nuanced one in which the introduction of electricity often provoked a gendered struggle for control, the outcome of which was often to reinforce rather than alleviate existing male domination, except where the women was the main wage earner. (White 1996: 17)

Although, as she pointed out, the sample was too small to warrant generalisations, the findings were reminiscent of those of scholars working in Britain and the USA, who had found that:

The widespread adoption of electrical and 'labour saving' appliances had brought about raised standards of performance for housewives resulting in an increase rather than a decrease in their workloads. Other work suggests that men often reduce their existing small contribution to household tasks on the grounds that their wife now has a machine to do the washing up. (White 1996: 33)

Another method of looking at power relations has been through decision making. The crude hypothesis is that in poor households the decision to purchase electrical appliances is a significant one, representing a critical proportion of the household expenditure. Researchers have been interested to discover what appliances are purchased, and in what order, and have been quick to interpret to whom the benefits accrue most immediately or most visibly, and to use these as an illustration of power relations and influence in the household (Crawford Cousins 1998). In some cases they have a point, in others, things are a little more complicated:

---

<sup>97</sup> A cheap kettle could be bought for around R70, a small black and white television for around R350.

In theory electrification extends the potential choice of appliances considerably, although in practical terms affordability remains the deciding factor (Annecke 1994: 100). The literature shows that the range of first electric appliances purchased varied from one area to another. Some women in Tambo showed a lot of determination in saving money from their earnings in order to purchase cooking appliances (James & Ntutela 1997). A significant number of households in Loskop had bought electrical cooking appliances before any other appliances and in two cases hotplates were the first and only appliances bought by households (Hansmann et al. 1996). Households with a variety of demographic and gender characteristics – for example, male and female household heads and/or income-earners – as well as higher and lower income households were included in this sample so it could be deduced that the women who made these decisions have the authority to do so.

On the other hand, while many households purchase electric hotplates and stoves, often they do not use these for all, or even most, of their cooking (Annecke 1996; James & Ntutela 1997). So although they may have the authority to make the decision, it is somewhat dampened by the lack of ability to use the purchase. In Loskop the households which consisted of men only tended not to have electric stoves, as well as households which considered themselves to be too poor or did not like electricity for cooking (Annecke cited in James 1997). Some people in Tambo also indicated that they were not interested in cooking with electricity but were happy with wood and paraffin (James & Ntutela 1997). This attitude was prevalent among older women pensioners and households which consisted of men only.

In Loskop Annecke (in Davis 1997: 13) found that 80% of respondents owned a hotplate these were used in conjunction with wood and paraffin, 65% owned a television. Only 60% owned an electric kettle. However televisions were used daily whereas some woman used their electric hotplates only on special occasions. Whether owning a television reflects its 'central importance to all members of the domestic unit or [whether it reflects] the outcome of a household bargaining process won by the individual with the greatest power over cash income' (Crawford Cousins 1998: 6) was not clear from the respondents' answers to questions, nor from the participatory workshop. The effects of electrification on gender relations or age and generational relations are difficult to determine, and it is seldom clear whether, for example, the

purchase of a television prior to a labour saving device such as a kettle has any particular significance or indicates male choice and prerogative.

It has been found that leisure is the prerogative of men and television or music may be a necessary component of leisure (James 1993: 52). The assessment becomes more difficult if one reflects on the context. In one household where the radio was blaring right through the focus group discussion and during the personal interview, the woman concerned said she never listened to the radio. This was in some sense correct, since she was comparing it with how, when her husband came home in the evenings, he sat down and did nothing else (Annecke 1994). Annecke's (1998) preliminary assessment showed shared benefits among household members from owning a television and that perhaps one has to look to structural subordination as well as relations between individuals to determine a strategy for gender equality.

### **Commanding labour**

A further suggestion of a method to determine power relations is to ascertain the extent to which each member of the household can command labour (Ross 1993; Burn & Coche 2000). The allocation of labour within households is not necessarily fixed but changes as fortunes and membership of the unit fluctuates (Ross 1993). These could include men and children taking responsibility for wood collection or exchanging labour for fuel for food (Ross 1993), the hierarchical relations between women based on age and marital relations which sanctioned the extraction of labour from the *umakoti* (James 1993) and what Bank et al (1996) called the 'masculinised' imposition of the division of labour by women to other women. Ross recorded the fluctuating fortunes of young girl-children moving in and out of care-taking positions according to the presence of an older girl or woman (Ross 1993). Annecke (1994: 31) noted the reliance on child labour for attending the cooking fires and hauling water in urban informal areas and the non-traditional relations in the same areas where some men take on child-minding and meal preparation during the day. Although head-loading wood and water remains a girl-child or woman's task there are exceptions to this which demonstrate the subtlety of what may be involved in commanding labour. James records a man at Mbibi assisting his wife in wood collection because she had come from an urban area and was not able to head-load (James 1993). Mehlwana and Qase (1996: 36) relate how in some households, urban-born women and men are reluctant to participate in wood collection

even under duress, while in another, a man did so 'by force of circumstance' in order to assist his wife so that sheep's heads (the only source of income) could be cooked and sold. Annecke (1992: 25) recorded how young men, whose labour could not be commanded by their mothers or sisters, purloined shopping trolleys and readily engaged in collecting wood and water for sale to others.

Women who are able to command male labour in the household are still relatively rare. Crawford Cousins (1998: 21) argues that the extraction of value within the household is still (perhaps increasingly) exploitative of women:

Most rural men in South Africa have very restricted access to land or capital. In this context, the control of women's labour is men's single greatest asset. The multiple roles that many women are forced to perform in terms of asymmetrical gender roles thus represent a solution to a severe problem of scarcity for men.

Crawford Cousins maintains that men resort to a variety of tactics one of which is violence, and that the politics of domestic violence, the fear or experience of emotional and physical abuse, was found to be a major obstacle to accessing resources and claiming political rights at the level of household (Crawford Cousins 1998: 21). She points out that in the face of such power relations, the meaning and importance of electricity becomes obscure.<sup>98</sup>

With regard to concepts, the more interesting contributions of woman researchers in South Africa have been in arguing for re-definitions of *domestic* and *household energy*, as well as *the household*, and ensuring that the phenomenon of *multiple fuel use* is widely accepted. These are briefly described below:

Energy used by women for performing their chores was clearly insufficient to account for all the energy women used every day. The micro-enterprise sector is overwhelmingly survivalist in low-income urban and rural areas, with most of these small businesses operating from homes (Mehlwana & Qase 1996; Qase 1999; EDRC 1998). Mehlwana and Qase (1996: 15) called for a broadening of the definition of *domestic* energy to include

---

<sup>98</sup> On the other hand there is evidence that street lighting (grid or solar), which enables women to move around more safely at night, is of growing importance in an increasingly violent society (Annecke 1998).



energy for home-based income generating activities. In 1993 Thom was critical of the narrow approach adopted by the EPRET project to domestic energy planning and recommended a more integrated view with a broader definition of domestic. She points out that the EPRET project focused primarily on household energy use, with some consideration of energy needs of small-scale agriculture, and noted (1993: 25) that this approach 'seems to have been based on the assumption that integrated energy planning (IEP) can be conducted for the household sector with limited reference to other sectors. This is incompatible with the notion of integrated rural development which focuses on the poor, and requires a more holistic approach.'. Other studies too, called for recognition that women's daily energy needs extend beyond cooking and reference to domestic energy should include these other uses (Clancy 1998; Klingshirn 2000).

**The model of household** used in mainstream energy studies was found to be inadequate by women probing the meanings and boundaries of what constitutes a household. Quantitative energy studies, initially of woodfuel use, and later on domestic electrification and hydro-carbons, did not question the low-income household as a fundamental unit of energy supply or consumption (Makeret al 1978; Aron et al 1989; Gandar 1993). Nor did they distinguish between members of the household or collect gender disaggregated data. They were either oblivious of issues of difference among members of the household in commanding resources they required, or the authors made a comment or two in passing that these matters should be further investigated (Eberhard & van Horen 1995: 202). Neither was men's interest in household energy an indication of attention to women and /or gender issues. Early on Ross (1993) drew attention to the incorrect tendency to conflate the terms 'poor', 'household' and 'women' as did James (1993, 1995), Annecke (1994) and Mehlwana and Qase (1995).

The qualitative energy studies focused on low-income households and were concerned with intra-household dynamics which would explain energy use and decision-making. In the early 1990s qualitative energy researchers suggested that *the household* was not a sufficient tool of analysis. Nor was the exclusive examination of relations as they pertained to fuel use sufficient as this ignored intra-household associations, relations and other important links (Ross 1993; PDG 1997: 11). The researchers involved in primary studies pointed out that the model which assumes a homogenous or coherent structure where individuals live together co-operatively and there are no gender, age (or other) struggles, overlooks conflict (both intra- and inter-) which is shaped by access to

resources such as income, food, energy and others. Annecke showed that the household rarely implied a nuclear family. It was seldom a coherent or fixed group of people in a built structure, but a more permeable arrangement, sometimes stretching between several built units (Hooper Box et al 1998: 12). Ross (1993) recorded high rates of intra-household mobility in Die Bos. She argued that the mainstream household model did not reflect the phenomenon of fuel sharing between households or the separate economic activities of women and men. A more appropriate conceptualisation would be to follow international and local anthropological trends, and understand the household as a site of struggle and co-operation among individuals, some of whom may be related (James 1993; Ross 1993; Annecke 1994; Makan 1995; Bank et al 1996).

Mehlwana and Qase (1996: 15) raise some interesting observations around the reciprocity of domestic arrangements. They use Kabeer and Joeke's (1991: 1) reasoning that household decision-making is 'a bargaining process between parties whose bargaining power depends on their positions as individuals within the larger economy ...where there is a conflict of interests, decision-making outcomes will reflect the differential bargaining power of individual members' (Mehlwana & Qase 1996: 39). In their study Mehlwana and Qase sought to understand the main factors that determine individual rights to participate or influence decision-making within households. They suggest (as does Silberschmidt 2001) that these intra-household dynamics are set to become more complicated since the perception that men should be the breadwinners persists yet many men are not employed and cannot be providers in the manner that this was constructed in the 1950s (Mehlwana & Qase 1996; Silberschmidt 2001).

### **Multiple fuel use model**

The hypothesis in the energy sector was that as households moved up the socio-economic ladder, particularly in terms of income and education, that they would also move up the fuel ladder in a smooth and linear fashion from wood through hydrocarbons to electricity. This was the transitional fuel model of Viljoen (1989: v). However, what became clear is that those living in abject poverty (as most South African do) do not make a smooth transition from one fuel to another (Mehlwana & Qase 1996; PDG 1997).

Women's energy research identified a phenomenon which has become known as fuel switching, multiple fuel use or back-switching. The linear progression from one fuel to



another seldom occurs in low-income households where decisions about fuel use are made on a daily basis (Annecke 1993; Mehlwana & Qase 1995). Instead, as low-income households move unpredictably from improved to worsened economic conditions and back again, different fuels are used. Improved circumstances such as remittances received or part-time work may allow the use of paraffin for a few days. The loss of a job or no access to income will mean reverting to wood. Electrification will permit the use of electric lights for a while. If there is no money for a prepaid card or there is a power failure (prevalent in some areas) candles will be used. Even if electric lights are used, paraffin or gas is often used for cooking because both the fuel and the appliances are cheaper (Mehlwana & Qase 1995; Bank 1996). Electricity might not be used to its full advantage in households where there are radios but no electric cord connections. In such cases batteries which are relatively expensive, continue to be purchased (James 1995). These are but a few of the many examples of the multiple fuel use findings. The same series of studies also provided evidence that thus far relatively few households have been able to switch to using only electricity within one to two years of electrification (Hansmann et al 1996; Mehlwana & Qase 1997; Annecke 1998). Usually it is the women who bear the brunt of the hardship of back-switching, although children and men may also have to assist (Mehlwana & Qase 1997).

Davis and Ward (1995) provided a quantitative description of this phenomenon in rural areas. They assessed the prevalence of different fuels (wood, paraffin, candles, coal, electricity, batteries, gas and dung), the expenditure and end-use of each. They found that paraffin was used by 82% of the 8,500 households surveyed throughout the country in urban and rural areas (Davis & Ward 1995: 2). Their key findings included the facts that electrified households spent more on energy and relied less on multiple fuels than unelectrified households, and that the incidence of electricity displacing other fuels was observed to be greatest in the highest income groups (Davis & Ward 1995: 14). This provides evidence that the movement predicted in the transition model *is* influenced by income but occurs in a different form and shape to that anticipated.

There is also evidence of multiple fuels being preferred because they fulfil multiple tasks. In townships on the Highveld, coal stoves continue to be used after electrification because they fulfil several functions simultaneously, and for that reason seem to be cheaper (and more useful) than electricity. In 1994 Penny Hoets explained the Soweto residents' attachment to coal stoves as the heart of the home, because they radiated heat,

provided a focal point and allowed several pots to be heated at the same time as ironing was done (cited in PDG 1998: 13). These are important considerations in the development of policy and indicate that multiple fuels and multiple uses should be distributed and used as efficiently as possible.

With regard to content (rather than the concepts above), the South Africa women/gender and energy studies raised much the same sort of issues as the international literature, and the main trends in this regard are briefly enumerated.

### **Fuel use patterns and food**

Since fuel use and food are so intimately linked, much of the women and energy work in developing countries has been devoted to understanding the correlations and impacts of, for example fuel scarcity on nutrition, and whether, in the face of diminishing fuel supplies, women cook more refined foods, less foods or less often (Clarke 1977; Lund Skar 1982; Bouwer 1998; Owino 2000). The concern in South Africa has been largely what fuels are available to low-income women, what they chose to use and what food they cook (Clarke 1977). There has also been a focus on whether women who have electricity connections use them for cooking. Gender relations have been shown to be one of the determinants of fuel use and cooking patterns, and are singled out for special attention in these studies with regard to decision making, access to resources, fuel choice and expenditure.

The findings in relation to cooking have been interesting. They raise question about whether current levels of energy consumption in very poor areas warrant electrification or whether there are more meaningful ways in which poverty could be alleviated. Income, the presence of a man and his material contribution to the household appeared to be linked and significant factors in determining whether the woman cooked a main meal or not and how long she spent cooking (Annecke 1993a). This was most obvious in households that used paraffin rather than electricity. In the paraffin-using households in which there were men who were full and regular members, cooking was done daily and a main meal was cooked, usually in the evening. Where there was no man resident but there were children, women tended to cook less often but relatively regularly, approximately every alternate day (Annecke 1994: 98). In an area where there were few resident men, women and children ate bread and drank tea rather than having a main meal and using fuel for cooking. This was partly because there was not much money in

these households and therefore not much food to cook. Sometimes a male visitor would arrive bringing paraffin and meat as his contribution to the household and in return for being allowed to stay the night (Annecke 1994: 108). White et al (1996) recorded that groups of close women friends shared the cooking of meals to save fuel thus saving money. The Social Determinants project also found that:

As a preliminary hypothesis electricity consolidates the power of the person in the household who holds the purse strings. This is generally an adult male, and any strengthening of his already dominant role implies increasing inequities in gender relations. However, the person who is strengthened by access to electricity can also be a woman if she is the sole income earner and (perhaps) has a strong personality. (White 1996: 33)

Although cost was a significant factor in decision making and what to cook, it was not the only one. Annecke noted the women regularly made bread when they had not enough money for other food – even though the ingredients and the paraffin required meant that the home-made bread was more expensive than that bought from the spaza:

The bread we make is so nice. It's so nice if a woman makes bread and it's not too much work. First you mix the dough [flour and sour milk], then you have to wait a l-o-n-g time for it to rise if you don't use yeast. Then you have to find one or two packets that don't have holes. You put the well-risen dough inside and tie it up securely so it doesn't get wet and gets nice and crusty. Then you boil it on the stove for an hour and it smells good. When it's ready it's all hot and steamy and smells good and the children will just say 'Ooooh, ma, you've made bread' and eat the whole lot and go to sleep without asking for more. (Annecke 1992: 94)

The responsibilities of motherhood and the importance of being able to fulfil the role of mother as provider and nurturer was clearly more important than the cost in rands and cents.

## **Health and safety**

Health and safety are significant issues in the women/gender and energy literature both internationally (Pandey 1998; Von Schirnding 2000; Ezzati 2001; ITDG 2001) and locally (Terblanche et al 1993; Glajchen & Richter 2001; Thamae 2001). South African

men including Mark Borchers, Mongameli Mehlwana, Clive van Horen, and Reinhold Viljoen have contributed to this area as well as the women mentioned above. There are four areas of primary concern:

- Dependence on wood in rural areas results in significant social costs, especially for women who collect the wood (van Horen 1994: iii).
- Air pollution from coal and wood combustion results in extremely high pollution exposures, which in turn have negative health implications (Terblanche et al 1993; van Horen 1994; Glachen & Richter 2001).
- The use of paraffin is frequently associated with incidents of accidental poisoning of infants (van Horen 1994; Mehlwana 1999).
- Most non-electric sources of energy, especially candles and paraffin, result in high risks of burns and fires (Annecke 1993; van Horen 1994; Bank & Mlombo 1996; Mehlwana & Qase 1996).

Although there is little quantitative evidence (Clancy 2001), wood collection has been blamed for a variety of women's complaints including neck and back ache, child-bearing complications and general fatigue (Annecke 1998). Van Horen analysed the social impacts of wood scarcity on women, and the effect of wood scarcity on the natural environment, and determined the social and economic costs of these problems. Although it was not possible to do the complex calculation justice, he was able to demonstrate the order of magnitude of the problem and the number of people involved was essentially all unelectrified households – about 24 million people in 1994 (van Horen 1994: viii).

Van Horen does not differentiate between categories of poor people and does not mention gender, but the degree to which women and small children are exposed to the health and environmental hazards through energy use patterns is demonstrated through case studies, facts, figures and graphs (van Horen 1994). The evidence of poor women and small children's vulnerability to these hazards is overwhelming. Van Horen points out that the commitment of Eskom to producing the cheapest electricity in the world, and its progress towards achieving this, has kept the price of electricity artificially low by neglecting to include the environmental and associated health costs of its power

generation.<sup>99</sup> In effect the poor are subsidising industrial growth at the cost of their own health:

Society is subsidising the cost of this key input [electricity for energy-intensive, capital-intensive, industrial development] and this demands urgent examination.... Failure to reflect environmental and health costs of electricity generation in its price, effectively constitutes a subsidy, a subsidy frequently borne by the poorest members of society and by future generations. (Van Horen 1996: xi)

**Indoor and outdoor air quality** is affected by wood and coal use and to a lesser extent by paraffin (Terblanche et al 1993; van Horen 1994: iv). High levels of air pollution resulting from the combustion of coal and to a slightly lesser extent wood, puts those in close proximity of the fuel (that is women doing the cooking and children being carried on the back or kept close by) at risk of developing serious respiratory disorders (van Horen 1994; von Shirnding 2000; Glachen & Richter 2001). An unsophisticated calculation by Viljoen put the direct costs of poor health of coal-using households in the PWV area at approximately R280 million (van Horen 1994: ix). This represents a considerable expense to the health care system as well as families or households. The Ross et al (1996) study confirmed that there were unacceptably high levels of ill health especially respiratory illnesses and suggested that an initial measure would be to install simple mechanisms for drawing smoke away from women and children. The World Health Organisation in conjunction with the Medical Research Council in South Africa has been attempting to ascertain the impact of electrification on children's respiratory health but thus far measurable results are inconclusive (Mathee & de Wet 2001). However, it can be said that generally women's health is at greater risk than men's from cooking fuels, with only occasional studies showing otherwise (Mishra 2001).

**Preventable paraffin poisoning, burns and fires** represents a major proportion of hospital admissions among children from unelectrified households (van Horen 1994;

---

<sup>99</sup> Van Horen is referring to the generation of electricity through the combustion of low grade coal and no scrubbers or air filter protection. An alternative, potentially equally lethal method of electricity generation, using nuclear pebble bed reactors, is currently being researched by Eskom (Annecke 1998a).

Ross et al 1996; Mehlwana 1999). The use of coal, wood paraffin, gas and candles result in burns, fires, the destruction of households, property and death. All the Social Determinants teams reported the devastating effect of fires, particularly in Cape Town and East London (White 1996: 13). Candles and home-made paraffin lights were the most frequent cause of fires (Annecke 1992; White 1996: 21; Lloyd et al 1999) and it was clear that there was a need to improve fire fighting capacity and supply electric lighting.<sup>100</sup> Electric lighting does not necessarily have to be supplied from the grid, solar lights may be feasible and less expensive (White 1996: 21) The direct costs of paraffin poisoning of about 17,000 children per year were estimated to be over R2 million each year (van Horen 1994: 50). In 1991 residential fires in an area of shack settlements accounted for 75% of childhood fatalities, domestic accidents related to cooking and heating were responsible for a further 21% of child deaths (van Horen 1994: vi). The costs of burns and fires have not been estimated but are likely to be even higher. Interestingly LPGas use does not show the same level of burns and fires (per capita use) and is proposed as a much safer fuel by Philip Lloyd et al (1999) and the LPGas Association. However the fear of LPGas is widespread (White 1996: 13) and it cannot yet lay claim to a substantial proportion of the market.

Other studies investigating energy and health issues which affect women include an attempt by the Community Health Research Group of the Medical Research Council to quantify the health benefits of electrification (MRC 2001). The potential benefits of electrifying rural clinics include the ability to use better technologies, offer longer opening hours, ensure better maintenance of the vaccine cold chain, offer educational opportunities to visitors and patients, increase clinic security, and improve the ability to attract and retain staff (Borchers & Hofmeyr 1997). However Ross et al point out that an appropriate energy supply is just one component in a successful health care programme and that efforts such as vaccination programmes are more likely to fail because of human behaviour (such as the failure of parents to bring children for vaccination, the inadequate maintenance of refrigerators, infrequent testing of refrigerator temperatures, and the storage of staff goods in refrigerators) than the supply itself. It is important that the

---

<sup>100</sup> In Cape Town an organisation called Ukuvuka Fire Stop has made inroads in the Joe Slovo shack settlement with regard to decreasing the number of shack fires (Personal communication Sandra Fowkes, Stephen Lamb 2002).

people who are implementing the programme are well-trained and have adequate facilities for their own use (Ross et al 1997). This study came to the conclusion that the health benefits of electrification are 'extensive' although 'sensitivity is required to the implications of electrification for the very poor, marginalised and underserved' (Ross et al 1996).

Crawford Cousins (1998) dealt with health issues comprehensively from a gender perspective at the household level, using the World Health Organisation's definition of health as 'a state of complete mental, physical and social well-being' (Crawford Cousins 1998:7). She refers to rural people as being 'damaged by the evils and inequities of the apartheid system'. This applies to poor urban people too, because both were subjected to 'not enough good food, poor access to decent housing, too little land, too few opportunities to earn a living in satisfying and productive ways, poor access to clean water, safe sanitation, good-enough education and insufficient essential energy services' (Crawford Cousins 1998:8). Raising these issues has made some difference in terms of a policy commitment that 'Government will seek, as a matter of priority, to mitigate the negative environmental and health effects of air pollution from coal and wood use in household environments' (White Paper 1998: 100).

### **Energy and women's income generation**

A trend which appeared in the women and energy research of the 1990s was an interest in, and assessment of, the contribution of energy to small, frequently home-based, income generating activities undertaken by women in urban and rural areas. The emphasis on efficiency and economic growth has made this a strong focus of international literature and development projects (Lue-Mbizo 1991; Hosier 1994; Appleton 1995; Karlsson & McDade 2001; Dunnert 2001; Mensah 2001). It has not been as strong in South Africa, but a master's dissertation by Qase (2001) has added considerably to previous studies (Hansmann 1996; Mehlwana & Qase 1996; Qase 1999; Annecke 2000a, 2000c; Mlambo-Ngcuka 2000). Income generating activities in urban areas which require an energy source, include food preparation (Qase 1999; Tedd 2001), soap and candle making, sewing, hairdressing, some craft making and beer brewing, as well as those which involve energy services directly such as selling paraffin or the installation of Solar Home Systems (Cawood 1997).



A couple of important points pertaining to fuel use, income generation and social relations have emerged thus far. Whereas women in urban areas are reluctant for reasons of social status to use wood for their own domestic purposes (it makes them look unacceptably poor), they still use predominantly wood for their income generating activities and for these purposes it is socially acceptable to do so (Mehlwana & Qase 1996). Commonly cooked food included sheep's heads, vetkoek, staples (mielie meal or samp) with beans or gravy. Chunks of meat or walkie-talkies (chicken feet and heads) are sometimes included in the gravy. In terms of liquid refreshment, traditional beer brewing is labour and fuel intensive. It requires heating large volumes of water and uses significant amounts of wood (McCall 2001). LPGas fridges for keeping food and drink cold at shebeens are a necessity in some areas, a luxury in others (Annecke 1994, 1997). In rural areas income generating activities such as handcrafts or, more commonly, freezing ice-lollies for school pupils, appear to benefit from electric lighting (Cecelski 1987; Annecke 1998).

Emerging from the examination of income generation activities is the realisation of how little is known by energy experts about this aspect of women's lives and/or the related energy requirements. For example little is known about the movement of wood to and around urban areas to enable women to engage in food preparation. The Working for Water project has supplied some of this wood in Cape Town and has kept some records of employees engaged in alien clearing, but not where the wood is sold, to whom or for what purpose, and this has not been followed up by the DME (Preston 2002). A quantitative study of wood movement was conducted in the Northern Transvaal (Griffin et al) but little qualitative data has been collected about how it is used and by whom. There is little or no information about other regions. This is an area which needs urgent attention. Another point is that energy is a necessary but not sufficient condition for the development of micro income generating activities. The profit margins are often so small that any changes in the environment, an increase in transport prices or a change in the schedule of the passenger rail timetable, may nullify profitability (Qase 1999). There have been few projects implemented in South Africa with a women/gender, energy and income generation focus. One was a Peer Africa housing project which claimed to incorporate women's interests and afford women an opportunity to enter the SMME stream but only two women held jobs at the end of the project (Qase 1999). Another was a project to provide residents in Ivory Park with solar water heaters where minimal employment has occurred (Nkambule 2000).

## **In summary**

In relation to other areas of energy research and budgets, women/gender and energy research comprised a minuscule proportion of sector work being done in the last decade, but some shifts were made. In the early 1990s Energy for Development staff at the DMEA were persuaded to include (and fund) qualitative, women and gender-focused research in their portfolio and by 1994 the Energy for Development Directorate was declaring that that 'gender issues and the role of women in energy decisions' was one of the key issues facing the DME in achieving its objectives (James & Simmonds 1997: 218-219). The women and gender focus was perhaps too new a focus to be taken up by the new government and there was no evidence that the Department was able to use the research it had commissioned or had the resources, practical ability and commitment to mainstream gender in all its projects (Hooper Box et al 1998: 2). When key personnel changed (soon after the mid-1990s) interest in women and gender issues dwindled and the DME funded very little new women and gender research after the mid-1990s.

One of the exceptions was the solar stoves project in collaboration with GTZ, which added-on a gender component at the end of the study (GTZ 1997). However the appointment of an activist woman Minister, Phumzile Mlambo-Ngcuka, in 1999 has seen a revival of interest in women and gender issues in the DME and further support is discussed in the next chapter.

With regard to gains made by women as researchers and in research content, these would include the recruiting of an increasing number of women into the sector, the appointment of women to lead research programmes, and the inclusion of women and gender issues in some household research. The qualitative research methods they used made a significant contribution to introducing different research methods and research subjects to the energy sector. The impact of the participatory studies changed the approach to household energy studies which shifted away from large-scale survey-based questionnaires and evolved and matured in content and direction. Researchers paid greater attention to the context of energy use while qualitative, anthropological and ethnographic methods became more widely used (Eberhard & van Horen 1995: 203). The large scale national longitudinal studies on household energy produced disappointing results in relation to women and gender issues. The Biomass Initiative remained a quantitative study, EPRET missed the opportunity to produce the first integrated, gender sensitive African energy policy, and the Social Determinants project

raised gender issues but was not able to make policy recommendations as to how these should be incorporated into policy. The Rural Electrification project, although not designed to focus on women and gender, managed to commission several papers which focused on women and gender, the most notable being James' contributions and Crawford Cousins' consolidation of information at the end of the project (1998).

While poor women's roles as managers of domestic fuel use were the 'natural' place to start addressing women and gender issues in the energy sector, women researchers have tended to 'get stuck' in household energy research, without achieving consensus on important issues such as collecting basic disaggregated baseline data. Little gender research has been undertaken in other important sub-sectors such as agriculture, transport, industry, and commerce (James & Simmonds 1997: 218-219; Hooper-Box 1998: ii). The overwhelming number of studies remain at the level of household rather than gender, and several of those that intended to be gender-focused remained at the level of analysing women's roles. This was due in part to methodological difficulties of collecting data pertaining to the manner in which power relations function, a lack of men's voices and a lack of data collected from men. However there has been a concerted effort to determine access to, and control over, resources related to the fulfilment of domestic responsibilities, on the assumption that this would indicate the extent of unequal power relations and ways could then be found to address these. The Gender Review (Wentzel 2000) showed that women at the three locations studied had control over domestic sites and resources but little access to what the researchers called political rights and community hierarchies. So the question remains: Is there a strategy for changing power relations and can energy work contribute to this?

Several other individual studies such as Hirst (1996) and Hooper Box et al contributed new perspectives to the women and energy field and the latter made recommendations as to the development of a conceptual framework for gender and energy research. The two women's budgets, that by Makan (1994) which was presented to the Parliamentary Portfolio Committee, and that by James and Simmonds (1997) contributed significantly to raising awareness that the DME budget has not been sufficiently 'turned around' since apartheid days. It still mirrored the political priorities of the apartheid government (such as subsidies to the Atomic Energy Corporation) rather than reflecting the new social and political order and distributing resources more equally. Crawford Cousins pointed out that in the long run neither electrification nor any other infrastructure on its

own will solve the gender inequities in the energy sector (Crawford Cousins 1998: 7). In the last two chapters we explore some of the possible policy and other solutions.

## CHAPTER 8

### Engendering energy policy: a first attempt

The motivation for much of the women/gender and energy research was a desire to 'make a difference' – an aspiration to improve conditions for women, and to contribute to policies that might assist in achieving this. This chapter explores the extent to which this occurred in relation to the development of a new energy policy for South Africa between 1994 and 1998.

Policy is important because it proscribes the framework for the distribution of, access to, and control over resources, according to the values and principles of the government in power's manifesto. It provides a location for the comparison between the government's rhetoric and written commitment. The budget provides a third point in the triangulation of validation through the priorities recognised in resource allocation (Budlender 1997). At least superficially, policy development appears to follow a relatively neutral and homogenous process and has become, according to Maganya (1996: 3), an increasingly 'uniform exercise for all countries, irrespective of levels of economic development, technological sophistication and the maturity of the nation state'. However as will be shown, the uniform format masks a highly political process with significantly different consequences for various groups. Although a gender neutral form is assumed, most policy embraces a masculine norm, and despite various agreements, disparities continue to be perpetuated in a variety of ways including the invisibility of women in policy documents (Friedman 1999). Gender mainstreaming is the concept developed in response to the demand to 'engender' policy generally, although its meaning and implementation are, as yet, still malleable (Akpula et al 2000; Sengendo 2002). This chapter is concerned with researchers' efforts to 'engender energy policy' (Cecelski 1995), particularly in South Africa.

After a few preliminary remarks about mainstreaming gender in policy generally, the chapter notes the initial gender-blindness of energy policy of both developed and under-developed countries and how gradually considerations of gender were inserted first into the development discourse about energy policy agendas in developing countries, thereafter the attempts to include gender in the energy policy of developed countries too. The chapter explores the different understandings of 'engendering' or 'gender

sensitive' energy policy internationally and makes some suggestions as to how this might be achieved. It then turns to South Africa, and analyses the first attempt to engender the development of the new energy policy of the democratic order. The limited success of this endeavour is critiqued and minimum conditions for improvement are recommended. In South Africa limited success was achieved through the top-down consultative process described in Chapter 6.

### **Preliminary remarks about mainstreaming gender in policy**

When development workers began to agitate for the inclusion of women in development planning and projects, there was little knowledge of how this might be done. As has been described in Chapter 1, the theory and practice went through a series of iterations, until it arrived at a gender and development or GAD perspective on the inclusion of women. However even GAD development planning did not describe how to have women formally included in policy. Internationally the justification for gender equality in policy making is drawn from several sources including the ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1979 by the UN General Assembly, and a series of international women's meetings, agreements and protocols since then. These include the Fourth World Conference on Women in Beijing in 1995, at which the Platform for Action (PfA) was agreed to. The slogan emanating from Beijing – *Women's rights are human rights* – was formalised in many clauses of the Beijing Platform for Action, whereafter the term 'gender mainstreaming' came to be widely used to signify the need to consciously consider women-men relations in all social practices (Beall 1998: 528; Akpula et al 2000: iii). In signing the PfA, governments all over the world committed themselves to mainstreaming gender perspectives through policy and planning processes. Gender mainstreaming has been defined as:

The process of assessing the implications for women and men of any planned action, including legislation, policies and programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences, an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality. (ECOSOC quoted in Akpula et al 2000: iii)

This is a holistic definition which addresses benefits which accrue through policies, ensuring that inequalities are not perpetuated, rather than simply addressing an improvement in conditions for women.

In the context of a human rights approach to development (UN DPI 1997), the promotion of gender equality is an important end in itself, concerned with social justice and fairness. Some of the more progressive governments have begun to explore how to fulfil their obligations to the Beijing Platform for Action by using gender mainstreaming to eliminate gender inequalities. However ways in which to put this into practice have not always been obvious, and even governments with every intention of adhering to the agreement have found it difficult to grasp all the dimensions of the exercise. At the beginning of 2001, one of the more progressive governments, that of the Netherlands, issued a directive mandating departments to make gender awareness an integral part of their policy development (TNO 2001: 4). But first they wanted to know to what extent existing policy was gender sensitive. To this end the University of Amsterdam was commissioned to perform a gender analysis on the Port of Rotterdam. In the resulting report (entitled *Find the Women*), the researchers explained that the policy documents they surveyed were so gender neutral that themes and information available were often ignored or missing. For example, self-employed people who spend more than 1,225 hours a year working on their business become eligible for a start-up allowance. Since more women than men work part-time, 'such an arrangement is actually disadvantageous for women starting their own business' (TNO 2001: 4), although this was clearly not the intention of the policy. In this and various other ways, the report showed how women are, often inadvertently, discriminated against. It suggested that ideally all policies should be examined for the differential impact they may have on men and women and monitoring should be carried out on a continual basis to minimise unintended consequences (TNO 2001: 4). The point is that gender mainstreaming is proving difficult to legislate, implement and monitor, even where there is the political will to do so.

In South Africa gender justice is an enforceable principle in terms of the new Constitution, according to which it is the duty of the state to ensure a fair distribution of opportunities and resources for all (Liebenberg quoted in Crawford Cousins 1998: 14). However, despite fairly extensive gender machinery (Budlender 1997: 11-15) this right is not automatically granted, nor easy to claim. A step towards ensuring gender justice



would be to translate principles into policy statements which provide opportunities and resources men and women equally. Some sectors have been more willing and successful in attempting to do this than others (*Agenda* monograph 2000). The energy sector has proved particularly slow and intractable (James 1999; Clancy 2001).

### **Energy policy and the insertion of gender in developed countries**

As mentioned in previous chapters, internationally energy policy first became a consideration for developed countries during the oil crises of the 1970s. Strategies for using and securing supplies rather than policy were in place. Thus energy policy making is a relatively new endeavour. Over the thirty-odd intervening years a substantial body of literature has been produced, most of which deals with complicated sector interests and regulation (Dutkiewicz 1995). This chapter does not attempt to deal with such policy. Suffice to say that since most citizens of industrialised countries enjoy an abundance of convenient energy services, questions of equity in energy supply have not attained particular prominence in the North (Eberhard & Theron 1992: 10). However there has been growing awareness of an increasing number of people in developed countries who cannot afford adequate energy services and the dissolution of the former Soviet Union has revealed further inadequate energy services for many poor people located in the North. Over the last decade there has been some interesting work done with regard to social policies to provide adequate energy services to poor people in the North. Brenda Boardman of Oxford University has conducted studies on the thermal efficiency of housing for the elderly (Personal communication, Boardman 1999), and Belgium and France have introduced poverty tariffs (Personal communication, Ranninger 1999).

Analyses of inequalities in access to energy services between men and women in the North has been rather slower than attention to the poor but has begun to accumulate. It has been spurred on by the Research Directorate of the Commission of the European Communities which commissioned a study to assess, from a gender perspective, the energy component of the European Commission's Fifth Framework Research programme (Clancy 2001) and growing concerns about climate change. The energy component of climate change has become increasingly significant and studied largely in preparation for the World Summit on Sustainable Development to be held in Johannesburg in 2002. Gender has begun to feature as a variable in a growing number

of studies of differences between women's and men's energy consumption patterns (Hemmati 2000; Denton 2000, 2001; Roehr 2001; Rukato 2001; Skutch & Wamukonya 2001; Annecke 2002; Makhabane forthcoming). However this research has yet to enter the policy domain.

### **Energy policy and gender in developing regions**

When attention was turned to energy policy for the developing countries, energy for industrial and commercial development was the priority (Chapter 2). The very slow pace of this development shifted some attention to where energy was being used: transport, agriculture, small and medium size businesses and in households. However access to basic energy services in developing countries is still very skewed in favour of an elite and urban population. In a few countries the equitable delivery of energy services to the rich and the poor alike has become an important issue (Eberhard 1996), but there is little experience in policy development to meet such requirements (Goldemberg et al 1987), and even less attention to specific categories of users such as women.

From the 1960s onwards energy strategies in most developing countries were guided by international donors and funding agents. The 'pervasive' and 'often contentious' role of these agencies is reflected in the energy politics of the south (Eberhard & Theron 1992: 4) and in the energy for development paths followed by countries in Latin America, Asia and Africa. Although there was not much written policy, a review of government actions in those countries reflects many unwritten policies and the pre-eminence given to national electricity companies in most countries (Bogach 1996: 275). This was in part a response to the unrealistic expectation on the part of donors and governments that energy transitions would happen in the medium term, and in part reflects the aspirations of the governments in power to invest in electrification rather than indigenous sources of energy. An energy transition has been defined as moving away from dependence on biomass and hydro-carbons to electricity use (Viljoen 1989), or as an effort by a country to move away from dependence on imported petroleum as its principal energy source to universal electrification (Bianchi 1996: 275). It is premised on the (questionable) assumption that electricity will bring development (ETC 1989: 22). Cecelski with Glatt had showed as early as 1982 that electrification constituted only one element of a total

development process. Barnes (1988) and Foley (1990) made the same point clear to the World Bank.

Wionczek (1996) argued that policies in developing countries would have been more credible if they reflected the realities of the country instead of being pre-occupied with generating electricity, but (because of the emphasis on electricity) there was very little data available to reflect the realities and develop policies. Wionczek's criticism of the shortsightedness of Latin American policy could be generalised to conditions in most developing countries:

Decisions on energy should be made within the context of well-established energy policy. However most Latin American countries do not have such a policy. Latin America cannot expect to formulate logical energy policies if they have virtually no understanding of either the extent of their own resources or contemporary developments in the global energy sector. The transition from hydro-carbons to other energy sources is likely to take more than a century, not 25-30 years. (Wionczek 1996: 291)

The lack of data collection and lack of understanding of local conditions and their relation to global trends was a shortcoming on the part of funding agencies as well as local governments and energy researchers. To a large extent it reflected a lack of concern for the household sector which 'remains the major consumer of energy in most developing countries' (Parikh 2000: 11), and, concomitantly, a lack of interest in women and domestic energy use. However energy for development programmes instated substantial quantities of research in other areas and this resulted in numerous policy recommendations for developing countries. For a variety of reasons including conflicts of interests, these did not translate into substantial policy statements. An example in mind comes from South Africa, where the number of households still dependent on woodfuel in 1994 was documented by several individuals (Gandar 1984; Aron et al 1991) and by the government sponsored Biomass – Plant for Life programme (Chapter 7). It was known that millions of women would continue to use wood and paraffin despite the electrification programme (Eberhard & van Horen 1995) but, largely for political reasons, there was very little attention paid to biomass and/or paraffin use in the White Paper on Energy Policy of 1998.

Thus research is not always used, even when it is available and collected, as the research done in developing countries was, in the International Development Research Centre (IDRC) in Ottawa. The IDRC was able to publish 14 volumes of research reviews compiled from over a 100 status reports and written by the 'Who's Who' of energy analysts in the South in the 1980s (Graham 1996: x). A single summary volume of all the reports was also published (Graham 1994), which is of interest because the director used the introduction to this volume to engage in an exercise reminiscent of Eberhard and van Horen's (1995) reflection on the gender-blindness of the EPRET programme, and Fine and Rustomjee's justification for omitting gender in their treatise (Fine & Rustomjee 1996: 253). Graham identified some of the weaknesses of conventional wisdom about energy at the time, and explored the gaps in the research and compilation of the 14 volumes. One of the significant omissions he acknowledged, was the lack of attention paid to the environment. The others were the lack of attention paid to politics and women:

... it would appear that politics was deliberately avoided. *With the partial exception of some reference to women's issues*, fuelwood and nuclear proliferation, the role of energy availability as a form of empowerment at the local level was almost totally ignored. (Graham 1996: xv; emphasis added)

That passing reference comprised the sum total of concern for women in one of the largest ever compilations of energy research conducted in developing countries in the 1980s. It would appear that it was not so much a lack of data which prevented sound energy policy, but a lack of interest in areas relevant to the development of the majority of the populations. Any policies based on the studies above would inevitably reflect the (male) gender bias.

Closer to home, passing reference to women was also made in the ETC (UK) report (1989) entitled *Formulating African Energy Policy: A discussion document*. The report analysed the developmental and environmental context for energy policy, the structure and capabilities of energy planning institutions, rural, urban and industrial energy needs, supply side policy issues and the role of donors and potential for regional cooperation in the energy sector in Africa (ETC 1989: 1). It is, once again, noteworthy that those propelling the discussion, taking the lead in policy making for the energy sectors in Africa, were from the north. The United Kingdom, the Netherlands and 'a large number

of experts in the EEC and elsewhere' are mentioned (ETC 1989: 2). 'A selected group of African energy experts' were invited to review the draft and attend a review meeting in Africa. These people are not named but by the tone of the document are unlikely to have included women. One of the objectives of the ETC report is to examine and make recommendations on the role of external donors to the energy sector. Given its composition, and the composition of the meeting, the irony of the report is that it recommends that existing practices such decisions about technical solutions and external control over expenditure decisions should be reformed (ETC 1989: 8) and that donors should 'loosen their control over the resources they provide' It makes a strong statement in this regard:

Many problems arise in trying to put the ETC's principles into practice. The most serious is that they challenge the position of existing institutions. These must be willing to give up control over decisions and resources. They are also required to restructure the way they work; the operational procedures of state and donor organisations are themselves one of the main barriers to the effective implementation of energy policies in Africa. Both traditionally work to physical targets, typically based on pre-determined technologies, resources and timing. These procedures effectively prevent any real devolution of power. If local people are involved in planning at all, it is usually simply on how to operationalise the solutions decided by donors or state planners. Donors must be willing to give greater freedom over the control of resources, and frequently need to commit themselves to longer-term support of policy initiatives. (ETC 1989: 9)

Women are given a couple of paragraphs of consideration at the appropriate points:

Energy policies can play a key role in arresting this [environmental] degradation. Fuels burnt in the household are key factors in health and safety problems, particularly affecting women. (ETC 1989: 4)

ETC advocates the inclusion of women in decision-making bodies:

In most parts of Africa women are the main providers of fuel, and their inclusion at the centre of any policy initiatives is essential if they are to prove effective. In an end-use approach, women are the end users of energy at the household level,

and it is they who experience the problems which may not be recognised by the men of their community. This means that policy makers and planners must be more sensitive to the specific concerns of women as central actors in rural energy provision. The planning process needs to recognise this by integrating women into all stages of decision-making and, wherever possible, ensuring that it is the women of a community who have control over the management and use of energy resources. (ETC 1989: 14)

This call for women to be included in decision making processes is a common one (Tinker 1982; Cecelski 1995; Kaale 1999; Bbumba 2000). Formal structures, such as those established by Eskom (<http://intranet.eskom.co.za>) appear to be necessary to accomplish the inclusion of women, otherwise the calls go unheeded.

Africa's own African Energy Policy Research Network (AFREPREN) established in 1989 under the auspices of the University of Botswana, held its seventh workshop for policy makers in Gaborone in 1992 (Datta & Mohapeloa 1993: 62). Only six of the fifty-five odd participants were women. The proceedings have very little to say about users, and are silent on women except for a mention as consumers of fuelwood. More recently AFREPREN has been concerned to make its work more gender sensitive and the substance of this is currently being discussed (Personal communication Banda 2002, Cecelski 2002). Little gender sensitive material has entered the mainstream energy sector in Africa to date. There is, however, a major effort underway to engender policy in Uganda (Personal communication Sengendo, 2002; Feenstra forthcoming).

### **Engendering the debate: gender sensitive/ gender aware/ engendered energy policy**

Great strides have, however, been taken on the margins of major donor and funding organisations, where an awareness of gender equity issues in the energy sector has grown considerably in the last decade, and meanings of the terms *gender sensitive*, *gender aware* and *gender mainstreaming* have evolved (ESMAP<sup>101</sup> 1990; McDade & Bonini 2001). Interest groups such as Energia, the international gender and energy

---

<sup>101</sup> Energy Sector Management Assistance Programme of the World Bank.



network have also considered the concepts and how to use them in theory and practice (Cecelski 1995, Skutch 1995).

It has become apparent over time that women's energy needs should not be treated in isolation, but be seen in the context of the societies in which they live (Annecke 1992; Makan 1994; ECI 2000), and that a *gender approach* which takes account of the complementarity of men and women, how roles, work, responsibility and rewards are shared between them, should be applied to all energy planning activities (ECI 2000). There are at least two possible ideological positions which can be taken in relation to adopting a gender approach to energy planning and policy making. The first approach views gender in development as an *efficiency* consideration rather than a political matter. Gender is recognised as playing a role in society and planners are advised to take the differences between women and men's needs, desires and potential into account in order that these differences are accommodated and do not stand in the way of the project's success (Skutch 1998; ECI 2001).

In the *equity* approach it is understood that women as a group are systematically socially and economically disadvantaged, and that planned interventions should bring about greater equality between the sexes (Skutch 1998; ECI 2001). In fact many country governments have signed UN agreements such as CEDAW and the Beijing platform for Action to this effect. Akpula et al (2000: 3) are convinced that 'gender equality is a goal that has both equity and efficiency dimensions. Gender inequality is a source of economic and social inefficiency that prevents the achievement of other goals'.

Experience has shown that in many planned interventions, benefits which were intended for all, were appropriated by men due to their stronger bargaining position (for example when woodlots are planted and cared for by women and the timber is sold by men (ECI 2000)) Critics have argued that in such cases the unintended consequences are due to the *gender blindness* of planners who do not pay attention to the internal dynamics of who benefits from increased production in the household. *Gender awareness* is used in the context of the equity approach – that it is not just women who need assistance, but the unequal social relationship which needs to be changed (ECI 2000). In practice there are many individuals and organisations in the north and the south that believe that the differences between men and women are part of a cultural heritage and social value system which should not be interfered with (Annecke & Muller 2002). If they act, it is



usually in a *gender sensitive* manner, which looks to introducing some reforms which will alleviate the burdens of women, without upsetting the societies' norms and values.

This position has been criticised for depoliticising gender, so that it becomes a technocratic, disciplinary category rather than an emancipatory project (Wieringa 1998; Manicom 2001). It may, as Makan pointed out, lead to the entrenchment of roles rather than sharing or blurring. As a South African woman Makan advocates an activist position:

Planners must recognise that in fulfilling practical gender needs through electrification of households, for example, the gender division of labour may be entrenched. Researchers and policy makers must accept the importance of challenging conventional social relations in order to address gender needs. (Makan 1994: 9)

This position is shared by Wieringa (1998: 349) who criticises Kabeer, Moser and Young for reducing gender planning to socio-economic issues and argues for the (re-) introduction of the political, symbolic and sexual content of radical feminism to ensure the optimal transformative potential of any project. Wieringa is also critical of the manner in which practical needs and gender needs are used in development literature. She disputes the polarities introduced by the term, and points out the blurring that may occur according to methods of implementation. The end goal in any case is empowerment and the blurring should occur (Wieringa 1998: 352). This would imply that it may be important to have policies about method and process to accomplish empowerment goals. A similar point was argued by James (1998). She pointed out that the South African electrification programme could have been the vehicle for empowerment through process. The utility however argued it was not established to perform such a role and in the absence of mandatory policies was not obliged to fulfil this function (James 1998).

Arguing from a quite different starting point, the UNDP reached the same conclusion, a blurring of practical and strategic needs culminates in 'empowerment'. According to the UNDP argument, projects which fulfil women's practical energy needs and facilitate women's economic independence through income generating projects, may assist them to change the power relations affecting them in their day-to-day lives. That was certainly the reasoning behind the *UNDP Women and Energy in Africa: Lessons*

*learned* programme (UNDP TOR 1998). But economic empowerment may provide a rather different kind of leverage point to the self-empowerment advocated by Wieringa. Presumably economic empowerment would lead to an insertion of women into the current market system, rather than providing the fulcrum for a different kind of social order as envisaged by Wieringa and others. Developing policy for economic empowerment is quite possible as was evident in the White Paper on Energy Policy of 1998, however this was not aimed at women, and is further discussed below.

The formation of the Energy Sector Management Assistance Program (ESMAP) of the World Bank has provided evidence that the Bank is beginning to acknowledge the importance of addressing women's roles in energy projects as well as development programmes generally (World Bank 2001a). In addition the Bank published a resource guide to women and energy in 1990 and appointed a woman to a senior position in ESMAP's Gender Facility to support innovative approaches and learning, and develop and implement a strategy for gender mainstreaming in the energy sector (Energia 2001). Although ESMAP declared that 'mainstreaming – the integration of women's concerns into regular programs and projects – is being adopted, while the approach of promoting separate projects for women is phased out' (ESMAP 1990: 5) it also admitted that mainstreaming was proving more difficult than working separately with women (ESMAP 1990: 5). In 2002 the Bank is still far from integrating gender into its mainstream work (World Bank 2001). The Bank has also been criticised for employing gender as a key term to legitimising certain discourses in ways that detract from the political meaning of the word and render it '...inert, denuded....' (Manicom 2001: 8). It has been accused of not assisting the transformation of gender relations as the definition of 'gender mainstreaming' suggests it should (Akpula 2000).

The UNDP has recently committed itself to engendering its energy policy (McDade & Bonini 2001) and has drawn extensively on the policy and project lessons learned from its work in commissioning *The Generating Opportunities: Case Studies on Energy and Women* (Karlssohn & McDade 2001) to do so. The lessons learned included that policies cannot be assumed to be gender neutral and that explicit attention must be given to gender relationships in policy and programme design, in order to avoid unintended negative impacts on women. 'This leads to the concept of gender mainstreaming in policy dialogue' say McDade and Bonini (2001: 10). I think this jargon means that the

UNDP provides a much needed channel for those doing primary research to feed their results into and engage with policy makers.

At a meeting in Twente in November 1999, the Energia support group consisting of more than thirty men and women from all over the world, agreed that to *engender energy* means:

- to increase the awareness of all professionals in the energy sector of the benefits from, and the need to, mainstream the gender approach, so that it becomes integral and inherent in every energy planning decision and not a separate activity;
- to consciously seek advice both from women and men in planning energy, and to identify, explain, and respond to the differences in their advice;
- to increase the participation of women and to improve their status relative to men in the energy sector at all levels, and in particular to support and encourage the professional development of women in this area. (Oparaocha 2001: 3)

They agreed that:

The *gender approach* implies not just the analysis of the different impacts of proposed projects on women and on men, but a full recognition of men's and women's different needs for energy based on consultations which consciously seek advice from both men and women; also recognition of the potential of men and women to participate in energy supply; and the need to tackle institutional barriers which limit women's participation in energy planning and production and in their access to energy for a variety of end uses. (Oparaocha 2001: 3)

Although formulated some six years earlier, the WEG recommendations for women and gender in South Africa incorporated much of the spirit and the letter of this thinking. Agreement about concepts and adequate data to support the evolution of definitions of engendering energy policy, are important steps in the process towards mainstreaming gender in energy policy. This by all accounts and evidence is still some distance off. Cecelski found that although substantial research had been done on women, energy and environment:<sup>102</sup>

---

<sup>102</sup> The links between gender, energy and the environment have been drawn more strongly leading up to the World Summit on Sustainable Development in Johannesburg in 2002.

- the bulk of policy research does not yet reflect the advances, nor, more importantly, have they been incorporated into practice (Cecelski 1995: 563);
- internationally significant areas of research and data collection been neglected; and that
- policy makers still did not have the tools, concepts and case studies necessary to undertake gender sensitive planning (Cecelski 1995: 570).

Recognising that policy is made in the context of a gendered world and the gender is masculine, and that in most energy policy documents women are still marginalised (Parikh 1995; Cecelski 1995; Clancy 1999), directions for women and energy policy research have been identified (Brooks et al 1990; Cecelski 1992). Possibilities and perspectives for energy policy have been explored. Cecelski (1995) provided a comprehensive overview of what had been accomplished and what still had to be done, including probing areas such as energy efficiency in the household, pricing and sustainable transport systems (Cecelski 1995: 561-575).

Professor Jayoti Parikh (1995: 746-747) provided concrete examples of how energy policy should be changed in India. First she identified negative externalities in the use of biomass fuels and suggested policies to change this. She followed this up with calls for energy analysts to pay more attention to gender considerations at the macro level, arguing that commercial fuel availability, especially cooking fuels, is constrained by import policies, and that access to clean fuels should be considered an indicator of human development (Parikh 1996). More recently Parikh conducted an economic analysis of the gender bias in petroleum product imports in India. She showed that there is a need to change policy on petroleum products in order to make kerosene available to those who are willing and able to pay an affordable price for it. She demonstrated that the present subsidy system is creating a scarcity for women and putting pressure on forests and other bio-fuel resources (Parikh 2001: 13). More examples of such targeted policy interventions on behalf of women would be useful. Calls to remove Value Added Tax from paraffin in South Africa were heeded just before the municipal elections in November 2000, and may have done more to improve the lives of women than all the

---

These links are made largely in connection with the manner in which women are affected by the disappearance of biomass resources, land degradation, deteriorating air quality and safety issues with regard to using dirty fuels.

suggestions made (but not implemented), towards the White Paper on Energy Policy in South Africa (1998). These are examined next. It should be remembered that most of this discussion and literature post-dates the South African attempt to engender energy policy.

### **Engendering South Africa's energy policy**

Post 1994 there was a real possibility for previously disadvantaged groups – including women – to have greater input into government policy and planning than ever before. The question was how to accomplish this. While many activists had ample experience of the effects of brutal apartheid policies, they had little experience in how to write new policies to address the effects of inequality and gender discrimination as a necessary part of the transformation of social project (Friedman 1999: 3). In addition the understanding of the role of the state and especially its economic policy changed rapidly from 1990-1992 (McMenamin 1992: 245). Although a discussion of this falls outside of this study, a common understanding of the role of the state and of prevailing economic ideology is a first step towards determining any country's style or approach to energy sector policy development (Green Paper 1995: 18). In South Africa the market has acted not only to generate wealth but also 'as an important mechanism for the generation of poverty – through the loss of livelihood sources' (Crawford Cousins 1998: 16). In order to provide for all citizens it was up to the new democratic state to intervene where the market had failed. Thus the development of a different approach was necessary (Eberhard & van Horen 1995). The ETC report also advised intervention for all African countries:

The role of the state is to create an environment in which markets can operate effectively, but this will require a considerable level of intervention.... Africa can not develop an energy policy by confusing the instrument, the market, with energy use..., and can not develop an energy policy by substituting price for need, private capital for public investment. Without such a policy increasing poverty will produce increasing environmental damage which will, in turn, destroy the possibility of a sustainable future. (ETC 1989: 5-28)

Writing from the perspective of the rural electrification programme Crawford Cousins (1998: 16) argued that the new dispensation simply followed in the footsteps of the old:

In contemporary South Africa market solutions to the problem of poverty are newly respectable. The privileging of economic growth and development as the solution to the problem of rural poverty, rather than as an important means of human and community development is promulgated within policy frameworks (Draft Rural Development Framework, April 1997) and even feminist debate (*Agenda* 33 1997). At the level of state economic policy the old efficiency arguments, initiated under the Nationalist government of the 1980s, have been retained and developed since the elections by the new policy makers: greater reliance on 'free market forces' to allocate resources, the inefficacy of subsidies and the notion that, in order for services to be maintained over time, they should be paid for 'by the consumer'.

By 1992 it was quite clear that the ANC had done an about turn in its economic thinking and all policy had to adhere to a 'free market' philosophy (McMenamin 1992: 245). In the White Paper of 1986 the energy sector had declared its adherence to operating within a free market economy (White Paper 1986: 7), so that it was likely that any policies which required state intervention in the market (such as those targeting VAT on paraffin) would require strong championing. This would be going against energy sector tradition and would not be easy to accomplish, even if the requisite policy statements were accepted. Manicom (1990, 2001) has written convincingly on the inertia of the state and its ability to co-opt gender language without accompanying implementation. Women knew it was not going to be easy to change issues of access and control. However there was a tremendous sense of excitement with regard to what changes might be possible (Interview with Mabuse, 2002).

To begin with the bland format of the policy process appears gender-neutral:

- to recognise the social problems;
- to identify the underlying causes;
- to identify possible solutions, analyse their implications and make choices;
- once implementation of policies has commenced, to monitor and evaluate their effects. (Draft White Paper 1996: 2)

The highly political and contested nature of both the process and the content may be rapidly recognised in just a brief exploration of what each of the steps entails. The process begins with the authority to make policy. The selection of a group of people,

and the authority according to which they are appointed or elected to write policy, will make a difference to the process and product. Which issues are identified as problems, how the underlying cause are identified, what solutions are posed, and how the implementation is evaluated, is largely dependent on this authorised group of people. The location of women in such a group is highly significant in each of the steps of the writing process. In South Africa women were represented in the energy policy development group by members of the Women's Energy Group.

The authority to initiate new energy policy in South Africa was held by the Minister Pik Botha,<sup>103</sup> the Director General of the Department of Minerals and Energy, and the Parliamentary Portfolio Committee who enlisted the assistance of EDRC. Marquard provides details of the people and (male) personalities involved (1999: 34) and tells of how a committee chaired by Johan Basson of the DME, was established. It comprised twenty-five contributors, twenty-three of whom were white men and two women, one of whom was an independent consultant and the only person on the team who was not white, and the other was a representative from WEG.<sup>104</sup> This was the committee responsible for drawing up the document which was to form the basis of the new policy, it was novel to appoint women but not challenging to the male power hierarchy.

The dominant men on the policy team had worked on the EPRET programme and were appointed for their expertise primarily on the electricity sector (Interview with Ward, 2001). Being politically progressive they had identified equality of access to electricity as important for all South Africans and the White Paper was expected to endorse and extend the electrification strategy. The EPRET experience had shown insufficient attention to biomass and hydro-carbons for domestic use, and a reluctance to address other issues of equity such as gender inequalities (Eberhard & van Horen 1995: 203). The bias towards electricity and a particular gender insensitivity were carried into the policy development committee (Interview with Ward, 2001).

---

<sup>103</sup> A cabinet minister under the previous apartheid government, he was appointed in terms of the provisions of the Government of National Unity.

<sup>104</sup> The women were Wrenelle Ruiters and Sarah Ward who had both left EDRC by this stage (1994).



The first steps of the policy process, recognising social problems and analysing underlying causes, is a highly political process. Would a drug addict recognise drugs as a social problem, or his (sic) behaviour or the legal system or his parents? Would a patriarch recognise unequal gender relations as a social problem in accessing energy? Would he recognise poverty as causing unequal access? Having the power not only to identify social problems but to decide whether each was an important issue, was key to shaping national policy. The idea was to prepare a preliminary document for discussion first. For various political reasons (Marquard 1999), the committee wanted to keep this document relatively open, and to accommodate within it the conservative views coming from Eskom and the DME as well as more progressive approaches (Marquard 1999). The document was structured so that key issues were identified, strategic choices were offered, and likely consequences outlined. Although it was a struggle, and some recommendations were ignored, the committee agreed to include several options which targeted women (Interview with Ward, 2001).

The product was a 220 page long Green Paper discussion document (subsequently known as the Green Paper), in which each sector was described and the key issues affecting it were outlined. One hundred and eleven such energy policy issues were identified. These were divided into sections dealing with energy governance, energy demand, energy supply, and cross-cutting issues. Policy alternatives and implementation strategies were identified for each issue, and options (with their likely consequences) presented. The composition of the committee affected the way work was allocated. The women were given responsibility for household energy issue and human resources as well as contributing to the section on governance and the crosscutting sections of health and safety. As mentioned in Chapter 6 the women knew they were doing themselves a disavour by not contributing to the 'hard' sectors. It was regrettable that the women electrical and chemical engineers were unwilling/unable to contribute (James 1999: 37), for this entrenched the view that women's energy needs exist primarily at the domestic level.

WEG took advantage of the consultation workshops it had designed and conducted (Chapter 6) to feed into the development of the discussion document. As described in Chapter 6, WEG had identified the problems 'for' the participants and was interested in hearing solutions. Some community groups could not imagine how to address women's access to energy, and specifically the wood fuel problem other than by ensuring that

women were appointed to all decision making bodies. However a group in KwaZulu-Natal recognised that it was not woodfuel *per se* that was the problem, but that access to energy services generally depended on access to other rights as well. They proposed far-reaching measures: that women must be able to own land; women must have the same rights as men to inherit land; oppressive customary laws must be changed; and women must be represented on all development structures (James 1999: 40). That is, women recognised intuitively that their societal and structural positions made them vulnerable to woodfuel shortages and unable to act to address the situation. This is a significant point and is returned to later.

It may have been useful for WEG members and the representative on the policy development committee to be able to address both the immediate needs and the structural impediments with two questions such as:

- How do poor women articulate their energy needs and are there policy statement to address these?
- How is the energy sector contributing to the transformation of day-to-day relations between men and women in order to address gender inequities?

There was little precedent to guide WEG other than the research about women done in South Africa and the consultation workshops they themselves had conducted. As James (1999: 23-24) pointed out, neither Makan's study nor Thom's (1994) both of which were part of a research programme aimed at developing national policies, were able to present concrete policy proposals for either improving women's access to energy resources or addressing gender inequality (James 1999: 24). James goes on to explore why it is so difficult to address gender inequity through policy. She suggests several reasons for this and some direction as to what policy might include. Firstly she acknowledges that gender was identified late in the EPRET project so that it was difficult to reflect on thoroughly. On the other hand, James (1999: 24) points out, it has been difficult to find ways to develop policies from the women-centred qualitative studies which emphasise social relations 'exactly because they highlight difference and diversity within households whereas descriptions of women's roles lend themselves more easily to policy discourse which relies on generalised trends and problems' (James 1999: 23).

It has also been difficult to address gender inequality in the energy sector because of the way in which researchers have attempted to describe and define precise causal links between women and energy. There is acknowledgement that energy is just one of several needs and that the quest to fulfil these needs contributes towards intra- and inter-household dynamics. It may also establish new patterns or perpetuate old habit with regard to accessing resources. Yet trends in women and energy literature point to direct correlations. James (1999: 24) suggests that to insert the broad acknowledgement into policy, one would need to 'provide implementers with a broad framework for community consultation, so that different community members are able to define their energy needs, [this] could result in less generalised understanding of the needs that exist'.

The international literature was equally sparse and unhelpful with regard to tackling gender relations through policy. However, WEG, through their representative, managed to develop a number of recommendations which reflected the needs and aspirations of women and had these accepted and written into the discussion document. The section of the Green Paper on household energy dealt with women's roles rather than attempting to work with unequal power relations, however there were attempts to ensure women's participation in the sector through education, training and representation on decision making bodies. Most of the recommendations were whittled away through the editorial process which is described briefly below.

It was envisaged that the consultative process for all stakeholders would begin with the publication of the Green Paper discussion document and an invitation for the public to comment. Thereafter it was intended that a series of stakeholder workshops would be held, which would culminate in a National Energy Summit in November 1995, where it was hoped there would be agreement on a framework for national energy policy (Chapter 6). There were various delays to the publication, including contributions from the International Energy Agency (IEA) in 1995, and from the Department of Energy (DOE) of the United States. Since neither of these institutions embraced a vision of gender equality, or had any experience of 'mainstreaming gender' their inclusion did not assist the women on the committee (Interview with Ward, 2001).

After the National Energy Summit (described in Chapter 6), an editorial team consisting of six men and two women was appointed by the DME to write the White Paper (James 1999: 40). The Women's Energy Group sought to increase the number of women on the

team, and appoint a representative with some gender training and theoretical knowledge, but their request was turned down (James 1999: 40). A stormy writing process ensued. Finding themselves in a small, male-dominated forum, the women involved were unable to hold onto decisions and gains that had been made in the Green Paper and at the Summit. According to the two women, over time they were 'eased out' of the decision-making processes (James 1999: 41). Because the editor did not think that women deserved specific mention or targeted policies to assist them, most suggestions for gender sensitivity and policies to benefit women were simply edited out of the Draft White Paper 1996. This despite heated arguments from the WEG members. 'Ultimately' said James, 'WEG had very little power to determine what was included on the editorial committee and what was included in the policy' (Interviews with James 1999, Ward 2001).

The Draft White Paper of 1996 underwent significant changes when the National Party withdrew from the Government of National Unity and a new ANC minister, Penuell Maduna, was appointed. The new minister appointed new senior civil servants including a new Deputy Director General, Dr Gordon Sibiya,<sup>105</sup> which further delayed the process. The new minister's priorities were affirmative action and black empowerment, particularly in the liquid fuels sector (Marquard 1999: 36). Under the ANC-led DME, substantial changes to the draft policy were made including the insertion of black empowerment policy statements and the further deletion of women and gender issues.<sup>106</sup> In the final version in 1998, women and gender issues were so diluted as to be unrecognisable.

---

<sup>105</sup> Dr Sibiya studied at the Max Planck Institute in Germany. He was one of the first black engineers employed by Eskom in the 1980s. He was highly suspicious of what he called 'this white elitist EDRC' and their 'cosying up to the previous regime' by which he meant the funding EDRC had received from the NEC (Personal communication Sibiya, 1997). Thus despite the long-standing membership of the ANC by the director and at least two of the staff, and the hosting of the ANC conferences on nuclear power and electrification before 1994, EDRC lost favour with the DME.

<sup>106</sup> The ANC-DME editorial committee was not made public, but as far as is known, it did not include any women.

Here is an analysis of the way in which some of the policy recommendations made to meet women/gender interests, were changed from the first version of the policy document, the Green Paper of 1995, through to the White Paper which was passed in December 1998.

### **Addressing women's participation, unequal access and subordinate status**

WEG took up the demand that women should be included as a specific group in the governance structures of the industry (Green Paper 1995: 34) and made several recommendations on how to achieve this. To increase the number of women and constitute a critical mass of women, the Green Paper proposed that there should be at least 30% representation of women on all stakeholder bodies in the energy sector, that women should be appointed at all levels of government and that there should be measures and monitoring to ensure this happened over the next five years. This was reduced to the following:

Governance of the energy sector will be improved...and membership [of institutions of governance] will become more representative, particularly in terms of participation by blacks and women. (White Paper 1998: 30)

In so far as the number of women were concerned, the White Paper simply accepted what had been passed already in terms of the White Paper on Affirmative Action's policy on the inclusion of blacks, women and the disabled, without proposing the necessary back-up or support to achieve these quotas. This statement was moved to the section on Human Resources rather than on governance, thus reducing its importance and diluting the focus on women. This is the only policy statement that mentions women directly, but it is not concerned only with women. A motivational statement precedes it:

8.6 A recent study of government energy institutions as well as the electricity, petroleum and nuclear sub-sectors showed that 46% of staff were black, and only 7% occupied managerial positions. Women were under-represented in the sector, comprising 11% of the total workforce and accounting for 5% of total management. Black women were particularly under-represented, comprising 1%

of the total workforce and accounting for 1% of total management. (White Paper 1998: 109)

The policy statement to address this imbalance is as follows:

The Department of Minerals and Energy will strive to increase the number of black people and women on all policy development structures, forums, parastatal boards and similar structures. A target of at least 30% women and 50% black participants and 2% disabled persons by the year 2000, is envisaged, in line with the White Paper on Affirmative Action Policy. (White Paper 1998: 110)

There is also a statement to support women and blacks outside the sector:

The Department will ensure increased support and access for black and women businesses providing services or contracting with the Department and energy parastatals. This is in line with the White Paper on Affirmative Action Policy that was launched by the Public Services Minister in April 1998. (White Paper 1998: 19)

These targets have not yet been met. However as will be enumerated in the following chapter, some progress has been made.

### **Women's energy needs identification, planning and implementation**

The White Paper acknowledges the importance of women in the section on households and the energy needs of the poor:

3.3.1 Energy services for low-income households have not been adequate since the previous governments' emphasis was to create a modern industrial urban society to meet the needs of the industrial sector and a privileged white minority. Households suffering unemployment and poverty rely on less convenient and often unhealthy fuels. Grid electrification may not satisfy all the energy needs of low-income households. Although most consumers are women, past energy policy has largely ignored their needs. Energy policy has also not adequately addressed energy conservation by high-income electricity-dependent households. (White Paper 1998: 13)

However it continues to ignore women's needs in much the same fashion as the past regime. The Green Paper recommended that attention be given to a range of energy services for women and that in particular paraffin should be VAT zero rated; the government should facilitate the formation of co-operatives for bulk-buying of paraffin in rural areas; LPGas should be priced so that poor households can afford it and electricity tariffs should be affordable for the poor (Green Paper 1995: 69). None of these are addressed by policy statements in the White Paper. In addition the Green Paper pays particular attention to securing sustainable wood supplies (Green Paper 1995: 75). The White Paper policy statements on woodfuel supplies are insipid:

7.7.3 Government will facilitate the production and management of woodlands through a national social forestry programme for the benefit of rural households, where appropriate. (White Paper 1998: 92)

The implication is that the government, and not the millions of women who have to cope with diminishing supplies (Davis and Ward 1995), will decide on what is appropriate. Given the government's bias towards electricity, this does not augur well for women who can only afford wood. In addition the need to have women closely involved in such programmes has been well established especially since women do not always have the same right to land, inheritance and crops as men do. A policy statement towards upholding these rights and shifting resources in the direction of women would have made a significant contribution towards meeting women's practical and strategic gender interests, and signified the Department's intention to be involved in addressing gender imbalances.

The Green Paper specifically mentions women as the group to be most affected by the need to increase access to affordable energy services and makes recommendations on how to meet these requirements. The first part of the statement is retained in the White Paper; within the section on low-income households. It reads:

6.1.1 A further important factor to consider when formulating energy policy is that most household energy users are women. The gendered division of labour traditionally means that women are a 'disempowered' class. They are responsible for managing household resources and doing menial work in the home – using appliances to perform energy tasks and purchasing fuels. However, unless they are



breadwinners and command power in the household by virtue of holding an income-earning position, it is often the man who makes decisions about appliance purchases. Past formulation and implementation of energy policy has given virtually no consideration to women's needs in this context. (White Paper 1998: 37)

While this statement constitutes a major shift from former policy perspectives and is an important public admission, it is worthless unless followed up by credible policy statement and commitment. Current policy formulation fails to address women's needs directly and there are no policies to address women's empowerment.

The Green Paper (1995: 78) proposed to address women's empowerment through community participation in identifying energy needs, energy research and planning, and recommended that energy suppliers should assist in capacity building when involved in delivery to an area. When WEG suggested this they had in mind that communities should be provided with information about different energy services and efficiencies, and be able to make informed choices in what they used and how it was supplied (Interview with Ward, 2001). This suggestion raised interest and debate in the committee and other forums. It proposed an alternative, human development approach to the delivery of energy services, rather than simply technical solutions to demand (James 1998). Agencies such as Eskom who were involved in electrification, argued that they did not have the time, expertise or budget to become involved in human development issues, nor was it their core business. Yet unofficially there were some Eskom field agents who were fulfilling precisely this role. Realising the need for information and capacity building these agents responded to it of their own accord (Personal communication Thom, 1998). Women and men benefited in those areas where the utility's agents made a point of knowing their needs, intuitively encouraging women's participation in meetings without being instructed to do so and without official policy clauses requiring women's representation on decision-making structures (Annecke 1997).

The Green Paper proposals, which resonate with those of Wieringa above, could have made a contribution to human development and created a more informed public. However they were dismissed out of hand by the editors and do not appear in the Draft or final versions of the White Paper, where technology delivery is generally seen as a sufficient solution to development.

## Health and safety

Health and safety issues arising from the use of woodfuel, coal and paraffin, which affect primarily women and children who spend time close to the source of combustion (Terblanche et al 1992, 1993) are included in all three versions of the policy. This signals a welcome shift from the previous government's neglect of household air quality and Acute Respiratory Infections (White Paper 1986). However the statements in the White Paper of 1998 are weak, almost trivial in the face of the size of the problem (van Horen 1996; Lloyd et al 1999). The primary prevention measure for fires, burns and poisoning recommended by the White Paper (1995: 71) is the continuation of the electrification programme. This is expected to reduce the incidence of all three categories of hazards (fires, burns and poisoning), although it was known to the authors of the policy that electrification has had limited impact on the use of wood, candles or paraffin (Davis & Ward 1995; Eberhard & van Horen 1995; Mehlwana & Qase 1996).

Nothing is said about what might occur once the electrification programme decelerates. Deceleration was planned to take place once the targets set in the RDP were reached in 1999 (White Paper 1998: 55). This leaves some 40% of households, mostly in rural areas (White Paper 1998: 55), and among the poorest and furthestmost from assistance, to continue to be exposed to the health and safety hazards referred to above.

The health and safety recommendations of the Green Paper included a strong educational campaign, colour-coding paraffin, and LPGas to be made available and affordable (Green Paper 1995: 179). These recommendations would have provided better protection for women and children than the White Paper which requires only that the petroleum industry introduce appropriate safety measures for their products. The statement is a weak one with no directives issued as to what safety measures, appliances safety or time lines would be acceptable:

Government will require the suppliers of paraffin and related products to the retail sector, to introduce safety measures as part of their activities. (White Paper 1998: 101)

## Research and development

At WEG's suggestion innovative recommendations about research and development were made in the Green Paper. These included post-graduate bursary funds to

encourage more blacks and women to enter the sector and capacity building and in-service training for those men and women already in the sector (Green Paper 1995: 193). The bursaries were to encourage women interested in technical careers, so that women could be involved in research and governance of sub-sectors – electricity, liquid fuels, LPGas and nuclear (Green Paper 1995). The Green Paper proposed the collection and collation of good baseline data which is missing in South Africa (Green Paper 1995: 189-194). It did not go as far as requiring data to be disaggregated according to gender as WEG suggested (Interview with Ward, 2001). Gender differentiated data would be necessary in several cases in order to provide a baseline for measurements of improved equity and access (Baden et al 1998). Without this it would be difficult to make policy sensitive to men and women, or measure the success thereof. The White Paper, after acknowledging that ‘Government spending on energy research has decreased steadily since 1990’ goes on to declare that: ‘Government expects energy suppliers and the private sector to carry out appropriate research’ (White Paper 1998: 19) and eliminates any reference to particular assistance to blacks or women wanting to enter the sector, thereby dealing a severe blow to one instrument of women’s empowerment.

The Women’s Energy Group argued for research in order to be able to target women’s needs. They wanted to include areas about which very little was known such as the provision of public transport for women.<sup>107</sup> Transport is usually provided for workers at ‘rush hour’ whereas surveys show that those (who are likely to be women) caring for children and the sick need to be able to travel to clinics and hospitals in off -peak hours when there are limited services available and long waiting hours are exacerbated (Hamilton 2001). Other than removing VAT from paraffin very little was suggested in relation to the gendered impact of pricing. This was another area that needed researching (Interview with Ward, 2001). However neither these nor any other suggestion for research and development found its way into the White Paper.

### **The White Paper remains gender blind**

With regard to the effectiveness of the attempt to engender energy policy, James’ (1999: 37) assessment was that, ‘Despite WEG’s involvement, the discussion document remained particularly thin on policies which specifically address the energy problems

---

<sup>107</sup> Unbeknown to WEG this was being suggested by Cecelski (1995) at the same time.

faced by poor black women and the underlying social relations behind them'. The WEG representatives who had been involved in the day to day battle to write the Green Paper felt that they had made a significant contribution to raising the profile of women's issues (Interview with Ward, 2002). Despite limited resources and disparagement from the rest of the editorial committee, there was significant inclusion of women's interests in the Green Paper (and to some extent the Draft White Paper) which were novel in the sector (Interview with Ward, 2002). The Green Paper offered wide-ranging possibilities: there were options which would allow poor women to meet their energy needs by ensuring a wider supply of energy services including electricity, paraffin, gas and woodfuel that would be safe, available, affordable and secure.

One of the problems which WEG understood (Chapter 6), was that women's contributions had been limited to household energy and human resource issues. This was countered in the Green Paper by ensuring women engaged in decision making processes, research and policy options at all levels, and by ensuring participatory methods were adopted and quotas were accepted on all energy forums and structures, from community organisations upwards (Green Paper 1995). The Green Paper recommended that the training and capacity building necessary for women to participate equally, should be provided by and funded by the DME. In this way the Department would be actively involved in addressing inequities. In addition the Green Paper provided for women to be involved in the integration of energy planning with other development initiatives (James 1999: 37). This could have been secured through the IEP and RDP goals of social equity, which included an extensive household electrification programme and policies to alleviate energy poverty, conservation and efficiency measures, and a national energy policy forum to develop policies to meet the new government's goals and improve governance (Green Paper 1995: 58). The final White Paper is unimaginative in addressing the gender imbalances in the sector. It reduces the profile of the inequities in the categories of race, gender and physical disabilities by compressing them into one statement.

However all the data collection, thought and effort which goes into policy development is (almost) superfluous without the resources to implement it. In order to shift the priorities of the sector, statements of principles are a necessary step, priorities another, and resource allocation a third. A gender analysis of the Energy Budget demonstrated the lack of political will to address gender inequalities.

## **The Women's Energy Budget**

Policies must be backed by resources in order to be implemented, otherwise they remain a wish list. Under the current circumstances having a gender sensitive policy document would mean little since there is no action plan and no budget with which to implement the policy. Two women's energy budget have been produced in South Africa, which point out the discrepancies between stated development policies and budget allocations (Makan 1995; James & Simmonds 1997) The latter is examined here. It is through the budget that sectors may exercise the ability to prioritise and reallocate strategically to promote efficiency and equity. The Women's Budget Initiative was begun in 1995 as a joint research project of the Joint Standing Committee on Finance: Gender and Economic Policy Group, the Community Agency for Social Enquiry, the Law, Race and Gender Project at the University of Cape Town and the Institute for Democracy in South Africa (Budlender 1996).

The Women's Budget is concerned with those who are most disadvantaged and poorest (Budlender 1997: 25) and was produced as a tool to support those committed to gender equity (Govender 1997: 4). Deficiencies in information, and in particular a lack of gender disaggregated data proved an obstacle for many researchers attempting to perform a gender analysis (Budlender 1997: 33), and the authors of the women's energy budget complained bitterly about the difficulties they had in obtaining data (Interview with James, 1999).

James and Simmonds, at the time members of the EDRC staff former members of WEG, concentrated on the Energy portion of the Department of Minerals and Energy vote, and provided the most thorough gendered analysis of the energy budget to date. This section relies heavily on their work. Since the new White Paper had not yet been finalised, the authors went to considerable lengths to explain the complex institutional framework of decision-making and particularly the race and gender imbalances in these structures (Budlender 1997: 33). They argued white male dominance at the DME operated to poor women's detriment:

Policy-making bodies are mostly controlled by white men who represent the interests of industry, have a techno-economic focus and have little understanding of development issues. We argue that the current situation contributes towards the fact that policies do not always ensure that poor urban and rural women have

access to safe, affordable and easily available forms of energy. (James & Simmonds 1997: 200)

By 1997 the energy budget had not changed significantly from the energy budget of the apartheid era. There was a considerable disjuncture between the new policy directions and budget allocations (James & Simmonds 197: 225). The authors are critical of the limited way in which women's roles and use of energy are conceptualised in the draft White Paper which produced equally limited responses in dealing with the 'women as managers of energy for reproductive purposes' and ignored informal business activities and agricultural activities performed by women (James & Simmonds 1997: 201).

The energy budget is not a large one. In the 1996/7 fiscal year the DME was allocated R659 475 000 which was only 0.5% of the annual state budget (James and Simmonds 1997: 212). A disproportional amount was allocated to the Atomic Energy Commission Associated Services who received 79% of the budget. The authors note that despite the fact that the draft White Paper incorporated a wide range of energy policy objectives, including increasing access to affordable energy services, improving energy governance, managing energy-related environmental impacts and securing supply through diversification of the energy base, the necessary budgetary allocations had not been made to realise these aims. Furthermore an analysis of expenditure on gender-related policy research or pilot projects shows how little is dedicated to this 'key issue'. Projects which specifically target women, such as the dissemination of solar cookers, comprise 0.8% of the Energy Management budget (0.1% of the DME budget). Other policy research which has as its aim to examine gender relations within the context of household energy use, comprises 1.6% off the total Energy Management budget (0.05% of the DME budget) (James & Simmonds 1997: 218-219).

James and Simmonds urge the transformation of the sector in terms of the race and gender of decision-makers, but they warn that employing more women will not necessarily lead to more gender sensitive policy or implementation and that 'it is important to acknowledge the impact of gender relations within institutions on the implementation of "gender friendly" energy policies' (James & Simmonds 1997: 209). They provide an insightful analysis of the internal workings of the DME:

The experiences in the DME demonstrate the way in which gender issues are structurally excluded from the energy sector. In the Chief Directorate: Energy, all

top management and the majority of the staff are white men with scientific or technical qualifications. In part this can be explained by the fact that technical and science skills are ranked above social science skills, and promotion and remuneration are based on these rankings. Those with science and engineering degrees are thus promoted more quickly than those with development studies or social science degrees. The implications of such a system are significant. Firstly women and black people are less likely to be promoted as fewer women and black people have these qualifications. Secondly, as managers in the Chief Directorate are predominantly skilled in the technical aspects of energy provision and have little understanding of development issues, the allocation of funding within the DME is skewed towards investigation and implementation of technology without appropriate understanding of the development impacts of these technologies on the poor. It is, then, not surprising that the differential impacts of these projects on women and men are hardly considered. It is imperative that the system is amended and the DME is restructured in order to achieve the social equity objectives it outlines in the draft White Paper. (James & Simmonds 1997: 209)

If policies and resources are to be allocated towards energy policies which meet the wider range of energy needs of poor rural and urban women, transformation of the gender relations within institutions of the energy sector will be crucial (James & Simmonds 1997: 212). This may involve changing the mindset of present incumbents as well as the numbers of men and women. Until such time as budget shifts are made to resource promises made in policy, changes in gender inequalities will remain elusive. The DME has not seriously evaluated and revised its budget in terms of the new priorities and the changing national context. The appointment of a new Minister, Ms Phumzile Mlambo-Ngcuka in 1999, has begun to see attitudes shift towards a greater allocation to energy for development. However it may take up to three years of budget processing to show any real shifts towards women and energy. Changes in the allocation of resources are not yet visible (DME 2001).

## **In conclusion**

There are two major considerations, the first is whether policy to address gender inequalities is necessary or whether sound social policies would be sufficient to include the interests of women. The second continues the evaluation of the commitment of the



White Paper of 1998 with reference to the questions asked at the beginning of the chapter:

- How does the policy address poor women's energy needs?
- How is the energy sector contributing to the transformation of day-to-day relations between men and women in order to address gender inequities?

To begin with, is addressing poverty in adequate social policy equivalent to addressing gender issues in the energy sector? Since women constitute the majority of the poor, and are more intimately involved not only with access and affordability but also with health and safety issues, is it sufficient to couch energy policy in gender neutral terms and expect that poor men and women will benefit equally? Is the attention paid to issues of social equity sufficient to address both poor women and men's access to the energy sector so that they may take their rightful places among owners and decision makers?

Throughout the White Paper of 1998 women are included in the categories 'the poor' or 'low-income households', ignoring the careful qualitative and quantitative research that has provided ample evidence that 'the poor' and 'women' are not homogenous categories (Ross 1993; Mehlwana & Qase 1997). Although most women are likely to have less access to and control over resources than men, some women are more powerful and better positioned than others (James 1995). Furthermore, research has shown that there may be very different attitudes and degrees of access and control over energy services within low-income households (White et al 1997). The Green Paper discussion document recognised this and recommended that these factors be taken into consideration in energy policy statements.

Such widely different experiences as the TNO report from the Netherlands mentioned above (TNO 2001) and the Green Paper consultative process in South Africa,<sup>108</sup> showed that unless women are addressed directly and/or included by law, they tended not to benefit to the same degree as men. Here is a further example: Both (male) ministers, Mr Pik Botha (1994-1996) and Dr Penuell Maduna (1996-1999), were intensely interested in control and regulation of the valuable and powerful liquid fuels sector (Marquard

---

<sup>108</sup> WEG members found that the workshops for 'the poor' rather than women, caused them to lose focus and dilute the women's demands as well as having to represent too large a constituency (Chapter 6).

1999: 34). The DME under the ANC minister took responsibility for the final version of the White Paper which contained a substantially more sophisticated and comprehensive section on liquid fuels than the Draft (1996), testimony to the ongoing work being done with and on the sector. The White Paper (1998) pays considerable attention to a more equitable division of the wealth in the sub-sector, and a strong vision is provided for restructuring state assets to redress economic and 'social power imbalances' (White Paper 1998: 76). One of the cornerstones of the future policy framework is given as:

Black economic empowerment reflected in the composition of the industry and significant domestic black ownership or control in all facets of the industry. (White Paper 1998: 76)

In addition phases and milestones in deregulating the petroleum will be monitored to ensure the achievement of the first key milestone which is:

The sustainable presence, ownership or control by historically disadvantaged South Africans of approximately a quarter of all facets of the liquid fuel industry or plans to achieve this. (White Paper 1998: 76)

This is a necessary step to shift economic power in the petroleum industry towards black South Africans. Where women are not specifically mentioned, the masculine norm is understood, so that women are not necessarily included in the interpretation of these 'imbalances', and apart from Dr Renosi Mokate, an economist appointed to the Central Energy Fund by the minister, there are relatively few black women chemical engineers or business people who would be able to take advantage of this particular empowerment drive.

Greater numbers of black men are likely to benefit from this policy, while black women have not been assisted by policy to build their capacity through education campaigns nor through bursaries and are likely to remain in the domestic role using paraffin for cooking rather than having a stake in the petroleum industry. It becomes clear that if gender is not spelled out as a 'social (power) imbalance' then it will not be addressed with the same attention as race imbalances among men, such as those in the petroleum industry. It could be argued that the four million black women using paraffin on a daily basis have been 'empowered' by the removal of Value Added Tax from this fuel but

this is not equivalent to a share in an oil company. It is however significant that the woman Minister, Phumzile Mlambo-Ngcuka, managed to remove VAT within the first few months of taking office. She thereby achieved something for poor women which had been recommended in the Green Paper four years earlier but written out of the White Paper. Such an example provides evidence that the political will and authority of a gender-sensitive woman leader can make a difference.

In terms of the other questions, the Green Paper was able to develop policies to address the immediate need for energy services through a commitment to woodfuel, delivery of alternative energy services, market intervention in terms of affordable tariffs and subsidies for the poor, choice, empowerment, education and directives for health and safety. Had all the recommendations of the Green Paper been accepted and converted into policy, women would have been able to make significant strides in terms of meeting both their practical and strategic gender needs in the energy sector. Poor women would be able to make informed choices about meeting their own energy needs, and the entry of women into the domains of decision making would have been facilitated through ensuring appropriate educational qualifications. Human development and capacity building would have become part of the energy services delivery endeavour, and balanced the technology drive.

With regard to addressing day-to-day relations between men and women so that women could make their own decisions and meet their own needs as well as become participants, leaders and decision makers in this sector, community based women had articulated their solutions. They demanded a quota of places on all decision making bodies to be reserved for women, and to be granted the same socio-cultural rights as men had. The latter signalled the realisation of ordinary women that gender relations had to be transformed at structural levels. Some members of WEG recognised it too; whether delivery of services or structural change was more urgent had generated lively debate at the Rural Development Forum (Chapter 7).

In other words the women, gender and energy endeavour in South Africa has comprised both a feminist challenge to patriarchal relations as well as attention to the practical energy needs of poor women. Both levels were raised and were represented in WEG as well as in the constituencies they consulted and developed in the Green Paper. However they were raised intuitively rather than from a strong theoretical base and agreed strategic positions. This was probably a shortcoming, for when it came to arguing for,

and holding onto, WEG recommendations in the Green Paper discussion document, the women were not able to use the discourse and principles enshrined in the constitution, to support the equity principles they were arguing for in the energy sector.

Where an understanding of unequal gendered power relations had entered primary research, this was not easily translated into policy statements even when the inequality was acknowledged (White Paper 1998). James suggests that the greatest difficulty for gender-sensitive policy formulation is the fact that many of the policies which would lead to gender equality fall outside the ambit of energy policy, particularly given the strict sectoral approach to development and policy making (James 1999: 37). Theoretically South Africa has the gender machinery to cope with such inter-departmental concerns. The aim of the Commission of Gender Equality (CGE), which was established in 1996, is to promote gender equality and to advise and make recommendations to Parliament or any other legislature with regard to any laws or proposed legislation which affects gender equality and the status of women (CGE <http://www.cge.org.za>). There has also been an Office of the Status of Women (OSW) in the Deputy President's Office since February 1997; all provinces are required to have co-ordinating offices for gender, usually situated in the Office of the Premier, and each department is required to maintain a gender desk or unit (Budlender 1996: 13). However these offices are generally under-funded and under-staffed (Budlender 1996: 13) and thus far Madonsela's comment that 'No progress has been made on national machinery for co-ordinating gender policy' (Madonsela 1995: 29) is still valid in 2002.

To address all levels of women's subordination, policy would have to identify and address men and women's different roles and energy needs equitably, address the imbalances of power relations in the sector, and ensure access to resources in ways which would signal a change relations and a shift social structures. No provision or even statement of intent was made for tackling issues which lay outside the realm of energy bureaucrats such as land tenure or oppressive customary laws. Nor was there any provision made for changing entrenched patriarchal attitudes and behaviours.

Crawford Cousins (1998: 12-13) offers different reasons to those given above for the difficulties of developing gender sensitive policy. She ascribes the problems to the interaction between policy makers, researcher and implementers, and describes the challenge as one of:

Bringing together qualitative work by energy researchers with the technical energy studies written in the quantitative discourse of planning (see Horvei & Dahl 1994; Davis 1996). The social scientists (for example Annecke 1993; James 1997; Ross 1993) stress processes of fluidity, diversity, locality, strategy and multi-vocality. Rich in description, they are poor in generalisation. The 'obvious' solution – multi-disciplinary team work – is not so easy.

Crawford Cousins (1998: 12-13) attributes the disjuncture between social scientists and policy writers to distinct differences in discursive practices; to disciplines with incompatible aims and outcomes. She argues that the roles of social scientist and policy maker require quite 'different (and sometimes conflicting) intellectual and emotional demands'. According to their practice, social scientists show a marked reluctance to generalise the findings which they know are peculiar to a specific set of conditions. Policy makers become impatient when faced with reams of thick description from which they want a principle or policy distilled. A meeting of minds, or a merging of discursive practices implies compromises neither group is willing to make. Crawford Cousins suggests that the only way out of this dilemma is through continuous monitoring of policy interventions. Another might be for the policy makers and researchers to learn each other's languages.

There were, however, other conspicuous shortfalls in addressing equality. Notably absent was any mechanism whereby women could enter the economic stakes and become owners in any of the sub-sectors. It is clear that the theoretical framework which underlies the policy of the White Paper focuses on women and women's roles. From biomass resources to electricity, women were still economically subordinate as if that were their natural position in society, not a constructed one. Although the White Paper reflects a significant shift from the old supply-side paradigm to considerations of demand-side management and social equity, it reflects only a watered-down version of what was possible for women. The Green Paper demonstrated the possibilities for developing an energy policy which would have had the distinction of being unique in the sector and could have become known for its wide-ranging attempts to tackle the gender imbalances of the past. For the most part the White Paper pays lip-service to women in eight separate references. There are two policy statements which address women along with the poor in one instance and blacks and disabled in another. James'

pessimistic assessment of the Green Paper is more aptly applied to the current White Paper; it neither meets poor women's needs, nor does it address gender imbalances.

However, a response to gender imbalances in the energy sector government has come from an unexpected quarter, President Thabo Mbeki himself. Simply by appointing women to positions of power they become powerful, with or without formal qualifications. The woman Minister, Phumzile Mlambo-Ngcuka, and her woman Deputy Minister, Susan Shabangu, both of the DME are politically powerful, as is the woman CEO of the Central Energy Fund, Dr Renosi Mokate, who is also a government appointee. Appointing women to these previously masculine domains has set an invaluable precedent, although further struggle on the part of ordinary women is required to achieve recognition in policy and in practice.

## CHAPTER 9

### **Reviewing the progress: multi-pronged interventions have increased women's visibility and participation in the energy sector**

At the beginning of this study the invisibility of women in the energy sector was analysed and the absence of women all along the energy chain from owners and production to end-use was demonstrated. Through the WID/WAD and later GAD interventions, it was suggested that there are two main leverage points for addressing the inequities in the sector. The first is to make women as energy consumers visible and alleviate the burden of their tasks by improving their access to energy services. The second is to challenge the hierarchical relations which maintain and perpetuate women's subordinate position in the energy sector and in society. More recently the concept of mainstreaming gender has been used to describe the need to incorporate gender in every aspect of policy and planning. However, the energy for development world has still to digest and implement this.

Over time women have emerged as more than users of household energy. Each progressive chapter has shown how women have begun to permeate the energy field in increasing numbers, penetrating the sector at various levels including the previously masculine domains of policy- and decision-making. This final chapter reviews the success of these shifts and interventions. It assesses women's achievements in terms of equal participation in the sector. With regard to ameliorating women's burden, the chapter reviews what has been done to provide women with energy services and evaluates the extent to which this has made a difference to women's lives. Task sharing between men, women and children has been suggested as a way to ease women's burdens (Morgenstern 1998) and the viability of this is explored. Strategies to address gender inequities such as increasing the number of women in the sector, addressing sexual politics, and establishing networks and support groups are also assessed. Underpinning this review is Wieringa's argument that addressing women's practical needs, that is improving their conditions and delivering energy services, is not entirely separate from challenging gender inequalities, that the one blends into the other, and it



is a matter of addressing equity concerns along a continuum of gender justice, rather than one or the other (Wieringa 1998; UNDP 1999).

The first area of assessment is a question about what relieves women's burden most effectively, access to energy services, increased income or the ability to command labour?

Improving access to energy services is reviewed first. In South Africa the focus has been on improving access to electricity (Eberhard & van Horen 1995). Little attention has been paid to biomass supplies for women (Fairhurst 1997), attention to paraffin has been limited to the removal of VAT in 2000, and attention to LPGas began to take effect only with the introduction of the 'energization packages' from 1998 (see below) and is still limited. The national accelerated electrification programme has been the chief instrument for delivering better energy services to women in South Africa. From 1990 until 1998 when the new White Paper on Energy Policy was passed by parliament, there was a policy vacuum in the energy sector. This breach was filled by the electrification programme, a roll-out plan whereby 3.1 million low-income households were connected to the grid between 1994 and the end of 2000 (NER 2001: 14). Women, either as researchers or as members of NELF, had very little to do with deciding on the electrification strategy or the targets. However any study which claims to be interested in women, gender and energy must consider the impact of this vast programme on women and gender relations from grass roots level to the upper echelons of the utility. To date there has been no investigation of the impact above household level. This research has still to be done. A limited assessment of the impact of electrification on poor women has been done. Electricity use in urban areas constituted part of the *Social Determinants of Energy Use* programme, but this did not have a particular gender focus and data collection ended in 1996 (Mehlwana & Qase 1995; White et al 1997) somewhat before the impacts of the electrification programme could be fully felt. Some women/gender investigation was included in the *Role of Electricity in the Integrated Provision of Energy in Rural Areas* (RE) programme which ended in 1997 (EDRC 1998). Currently a study on the likely impact of the electricity basic supply tariffs is underway but has no gender focus (Personal communication, Persad and Thom 2002).

Once the RDP targets for electrification had been met,<sup>109</sup> it became government policy to decelerate the electrification programme. This leaves vast areas of the country and some 1.1 million households, primarily in rural areas, without electricity. The strategy is to install solar home systems (SHS) and/or 'energization packages' in rural areas which will not be reached by the grid (White Paper 1998; Banks 1998; IRIN 2001: 9). A typical SHS consists of three 9W compact fluorescent lights powered by a 53Wp PV module, with overnight storage via a 105AH semi-sealed lead acid battery, and a 10A charge regulator. Wall-mounted switches, a television plug and installation are included in the cost. In October 1997, the price was R2, 987 (Cawood 1997), and has now risen to about R4,500. This is payable over four years, or the system may be rented for approximately R64 per month (Personal communication Afrane-Okese, 2002). This system can power a black and white television and two to three lights for a couple of hours in the evening. It cannot be used for any thermal applications. That is, there is not sufficient power to boil a kettle, heat an iron or cook a meal.

In some areas an 'energization package' is supplied which comprises a SHS plus two 4.5 kg gas cylinders and a two plate stove with connections. One gas cylinder has to be refilled every month as part of the monthly payment. The package was devised in order to overcome the limitations of the SHS (no cooking) and to make it worthwhile for the LPGas distributors to establish depots in rural areas. The problem, of course, is that this is the utility and gas companies' solution to the women's energy needs. Either women have to keep collecting wood for cooking and heating or the package adds considerable expense to already stretched budgets and impoverished households (Kloot 1999).

The consequences of these planning decisions are that most low-income households in urban areas or close to the national network received subsidised connections to the grid (a once-off connection fee ranging from R32-R64 and a pre-payment card system (Davis 1997), while households in more remote rural areas, where there is little of the back-up and technical expertise required to support SHS, have, or will receive, an off-grid form of electrification (Annecke 2002d). The most important difference is that a SHS or an 'energization package' is more expensive than grid connection for the user, and cannot be used for cooking.

---

<sup>109</sup> The target was 2.5 million households by the year 2000 (RDP 1994: 33), and was met in 1997 (SA Energy Profile 1998: 30).

The international literature has established a list of assumptions, including potential social, health, educational and environmental advantages that electrification might assist in achieving (Cecelski with Glatt 1982; Barnes 1988; Foley 1990). No such assumptions were made explicit prior to the electrification programme in South Africa, where electrification was assumed to be a good and necessary project (Davis 1995; Annecke 1998b). However a study was conducted to compare the extent to which grid and off-grid (SHS) connections addressed women's energy needs and ameliorated their domestic burdens. A summary of some of the findings is given here (Annecke 1998). A similar comparison of grid and off-grid electricity was undertaken in Namibia (Davis & Wamukonya 1999). Although it had no specific gender focus and did not collect gender disaggregated data, it concluded that women benefit as much from rural electrification as men do. The South African study was intended as a pilot study, but to date no follow-up has been undertaken. The underlying question is, does the delivery of electricity ease women's burden and if so how? The study explored the extent to which electrification:

- contributed to improving the quality of life of women;
- contributed to income generating activities particularly for women;
- improved the non-formal education of rural people, particularly women;
- constituted an instrument for the empowerment of the poor and in particular poor women. (James 1995; Crawford Cousins 1998)

The research was conducted at two sites in KwaZulu-Natal. The first, Cekeza, was electrified by Eskom in late 1997 and will be called the grid site. The second, Maphephetheni, had 50 solar home systems (SHS) installed between 1995 and 1998 (Cawood 1997; Green & Erskine 1998) and will be known as the SHS site.

## **Quality of life**

The literature (Davis 1995; Barnes 1988; Foley 1990) describes the impact of electrification on the quality of life of women in terms of increased appliance acquisition and improved income via small or micro enterprises. While it was considered important to test these components, quality of life also incorporates subjective judgements about leisure, status, health and safety, the fulfilment of aspirations, the experience of hardships and real or potential improvements so that opinions on these were also sought.

Despite having some form of electricity, wood continued to be of primary importance for cooking to most women at both sites. Limited amounts of paraffin and LPGas were also used. At the SHS site women were using several different fuels and spending up to 20% of their incomes on domestic energy. Wood gathering continues to play a central role in South African rural women's lives, with a typical response being:

Yes, I collect wood. I use it for cooking and heating water. We collect wood twice a week and it is scarce now. It takes almost the whole day to collect, which is about 7-8 hours a day. (Annecke 1998: 16)

There was a marked difference between the degree of satisfaction expressed by those with SHS and those with grid, with many of the respondents at the SHS site being adamant that nothing had changed in their lives because they still had to collect wood and use candles in the cooking and sleeping huts.<sup>110</sup> Although most of the women at the grid site also still collected wood because they could not afford stoves and/or the electricity to cook with, they had a different outlook and were hopeful that in the future they would be able to stop collecting wood:

Yes, electricity makes my life much easier because we no longer buy candles for lighting and one day I will have a stove and I won't have to fetch wood again. (Annecke 1998)

Overall a number of appliances had been bought following electrification at both sites. Over three years 80% of households with SHS had bought small monochrome television sets, and at the grid site 25% had bought stoves. Thus it would appear that the delivery of energy services does make a difference to women's lives and their energy use patterns are beginning to change as appliances are bought and used.

Quality of life perceptions may be affected by sufficient time for rest and leisure (Nathan 1997). At the grid site just over half the women felt that they had sufficient time to rest, whereas at the SHS site 70% of the women felt strongly that they did not

---

<sup>110</sup> A common problem of electricity impact studies in South Africa is that there is little baseline data, particularly with regard to quality of life studies, so that the researcher is necessarily reliant on memory and hindsight.

have enough time to rest and several commented: 'No, I'm forever working night and day.' Insufficient rest is clearly related to wood collection and affected by low levels of energy or a high incidence of illness. It is also a feeling, the perception of tasks as never-ending, which tires many women, especially those who are older and caring for grandchildren.

In order to gauge whether daily hardships were of the kind that could be addressed by development initiatives (and in particular electrification), women were asked about the most difficult aspects of their lives. Most women gave considered responses describing the drudgery of wood and water collection, ill health, poverty and unemployment. Personal tragedies were mentioned in several cases. There was a high incidence of chronic fatigue reported, resulting, the women thought, from having to collect wood, maintain the household, work in their own or communal gardens or engage in any activity in the evenings. Low-level chronic illness is not a new phenomenon among low-income women and is not confined to rural areas (Annecke 1992; Crawford Cousins 1998). Crawford Cousins reported that:

The mental health of very poor people is compromised by the sheer stress of survival. Depression somatised as a range of physical symptoms, is a major presenting cause of illness at urban clinics and hospitals. (Albertyn quoted in Crawford Cousins 1998: 10)

Health care available to women in terms of clinics and staff had not improved significantly since electrification. Thom (1997) and Ross et al (1997) conclude that while electricity may improve living conditions and be a factor in persuading nurses and teachers to stay in rural areas, electricity itself is of minor importance in the production of the physical health of the household (Crawford Cousins 1998: 10). However an improvement in terms of health and safety that was mentioned spontaneously at both sites was the reduced possibility of fires through using fewer or no candles. The continued danger of the combination of thatch roofs and candles was raised in the groups at the SHS site where not all rooms had solar lights. Another important improvement was the contribution of electrification to women's ability to move around safely at night. Questions in this regard drew an enthusiastic response from men and women. There were no street lights in either area but women and men were overwhelmingly positive about their and other people's outside night lights:

Yes, I'm sure electricity makes it safe for all women, and it is even good for me to know it is there although I am never late at home. (Annecke 1998)

Yes, when I'm coming late from church in the dark, now I can see by the electric lights any person who tries to do wrong. (Annecke 1998)

In a country with one of the highest incidences of rape in the world (Wood & Jewkes 1997), it is important to ensure women's safety and ability to participate in community activities which may be held in the evening. Night lights and/or street lights, possibly off-grid mast lights, are an area of work for the future.

Studies conducted on the ability of institutions to deliver (Barnes & Morris 1997), and links between the delivery of infrastructure and the quality of life (Moller & Jackson 1997) have shown that service delivery makes for optimism. While the finding should not be taken too literally, over half the sample described buying a solar home system or being connected to the grid as one of the happiest moments of their lives. This pleasure was tempered by reservations at Maphephetheni on realising the full implications that SHS 'electricity was not enough' to use for cooking.

It was hypothesised that determining the primary beneficiaries of electricity would yield an indication of current patterns of power and decision-making within the household and that perhaps women had been empowered by electrification. Women were asked who used and benefited most from electricity. The responses showed egalitarian views of shared benefits and hardships for all members of the household. At the SHS site almost 50% said that 'all of us' had benefited equally from better lighting - although there was a trend towards saying 'but especially the children'. At the grid site there was a trend towards women benefiting most. Here are two responses from generous mothers:

All of us benefit from electricity because we use it and more especially the younger ones. They help me though and then I rest more often than I used to.

and

All of us are equal at home - it's only that I use it more than any other because I cook and make food to sell. (Annecke 1998)

## Income generation

Electricity is also assumed to enhance income generating opportunities and improve the quality of life through facilitating economic upliftment. The assumption is that every day domestic tasks, including wood and water collection, exhaust women's time and energy, so that they are unable to engage in income generating activities. The hypothesis is that given basic services, reticulated water and electricity, women would have time to become involved in income generating activities. Cecelski (1996) and James (1997) point out that increasing the number of hours of labour may not be cost effective in terms of projects which yield marginal profits and may actually have a negative effect on the quality of life if leisure and time for social interaction with family and friends time is curtailed. Crawford Cousins (1998: 27) points out that the notion of saving time in order to have time available to make money is the language and concept of the rational market and may not have meaning in lives where other requirements for economic growth such as markets are not present.

The solar cooker project in the Northern Cape provides evidence to confirm this. It showed that the gains made in time and money by using a solar cooker were spent on socialising and supporting the community (church) group rather than being invested in the household or income generating activities. The researchers were unable to assess the individual or group benefits of these actions (PDG 1997). In Loskop where a pre- and post- electrification study was conducted, it was observed that rural women's working day had a particular rhythm of activity in the mornings, followed by rest during midday, followed by further activity in the evenings. It would be difficult to add further work or greater activity to the work day without support especially for child care (Hansmann et al 1996).

At Maphephetheni and Cekeza when women were asked about using their electricity for income generating activities, 70% of the women at the SHS site said that although the light gave them time to work at night, they needed a grid supply for income generating activities. Those who were not too tired from collecting wood would work at night if there were something to do but they didn't know what this might be:

Electricity could be used if I worked at night. It's only that I don't have something to do, and I'm tired. The only thing I do is sit and watch television. Now, if you have a plan, tell me.... (Annecke 1998)



Four people used solar lighting for administrative, school, and income-generating work. These were the Inkosi (chief), a teacher, a woman who made Zulu mats, and another who made ice-lollies in a gas fridge and sold them at the local school (Annecke 1998).

At the grid site almost 40% of the women had used their connections to engage in some kind of productive activity, mostly to do with food. All were home-based and done largely in the evenings. Whether the activities made a profit or generated only turnover, would be worth examining. There is also a limited market for ready-made food at local schools and within small communities. What these activities did do was provide an avenue for creative output, an active identity and engagement with life which, in the face of overwhelming poverty and apathy, seemed encouraging and worth supporting (Annecke 1998). Thus the limited evidence available pointed to electrification encouraging small scale enterprises although we don't know much about these.

### **Non-formal learning**

The study also attempted to examine the assumption that electrification contributes to non-formal education. The assumption is that the provision of electricity will enable better lighting for reading and that access to electronic media such as computers, radios and televisions will lead to an improvement in local general knowledge, will facilitate participation in the modern world, and assist with widening possibilities of informed choices. Non-formal learning is difficult to quantify since it happens through daily socialisation processes, including such activities as reading, listening, watching, discussing, and selecting, consciously or unconsciously, ways of making meaning of, and being in, the world. The project tried to understand whether there was a gender bias inherent in such learning, how participants perceived their own learning process, and whether they were affected by what they saw and heard. Crawford Cousins pointed out that we 'should treat cautiously, however, the extravagant claims that are often made for mass media's ability to change attitude and behaviour' (Crawford Cousins 1998: 11).

Generally there were fewer radios than expected (only about two thirds of the households had radios) and nearly as many televisions. On the whole listenership and television viewing could be categorised according to generational rather than gender biases. Overall the news was the most popular programme, indicating a keen interest in the outside world, particularly among the teachers at Cekeza. Typical responses were:

I watch all the Zulu shows and the Xhosa and Zulu news and now I know that Kabila [late President of the Democratic Republic of the Congo] is in Durban with Mongameli [President Mandela].

I watch all the nice programmes especially the news, and the CNN news. These days the heads of state are in Durban and Mandela is welcoming them. (Annecke 1998)

The Non Aligned Movement summit and the anniversary of Princess Di's death were the most commonly named news items in 1998. Other popular programmes were soaps, quiz shows and African music. Global events, however, drew critical comment from both men and women, who were horrified to learn 'how bad things are everywhere'.

The radio programme listened to most often by men and women was the news, followed by the funeral notices and a list of missing people which is read every Thursday evening at nine o'clock. This public service programme was started many years ago in direct response to the inability of migrant workers to communicate with those who had been left behind and vice versa. In 1998 this programme still served a valuable role but the penetration of cellular phones may eventually make this redundant. Possible behavioural changes brought about by radio and television were not probed but there was clear evidence of engagement with issues beyond the community.

Another question was whether sufficient lighting facilitated non-formal education through increased reading and where this would be done. Not all the rondavels at the SHS site had lights. Reading by solar light would have to be done in one of the three illuminated places, in front outdoors, the dining room or one bedroom. At the grid site entire homesteads had been electrified so that all the rondavels had electric lights. Reading is an important social skill for interaction with the modern world and sufficient light could encourage increased reading and non-formal education. There was little evidence to support this hypothesis. However there is now a baseline understanding of the forty households reading habits. At the SHS site, Maphephetheni, eighteen of the twenty households reported at least one member of the household who read regularly but patterns varied from just one book to a hunger for anything to read, 'Bibles, magazines and newspapers etc. We read almost everything – *Ilanga*, *Umafrika*, *Bona*, *Drum*, *Pace*, whatever there is'. At the grid site, (which was further from an urban areas

than the SHS), there was even less reading material with newspapers being a rarity from town. More women than men responded to this question. It appeared that adult women read more than adult men, most of this reading was of the Bible. Homework habits were probed (Annecke 1998a: 38) but on the whole very little was reported to be done at home or at school, and there were very few school text books. Parents were critical of this but did not know what action to take.<sup>111</sup> Adult education classes, assumed to accompany electrification (Gordon 1997), were not conducted at either site.

Therefore with regard to alleviating women's burden: the chief burden remains wood collection. Unless this is addressed, and that means providing an income to pay for electricity/LPGas and the requisite appliances, the burden remains. The literature shows that improved stoves and solar cookers provide marginal benefits (Kammen 1995; Green 2002), but the issue in South Africa is whether the SHS policy should be implemented at all (Dingley 1999; Qase 2000). Radios and televisions do provide access to the outside world but informed choices can only be made if there are alternatives available. These appear limited in poor households. Crawford Cousins argues that grid electrification could be described as making a significant difference to the quality of life in terms of what she calls 'the politics of hope' (Crawford Cousins 1998: 23); solar home systems offered substantially less in these terms.

## **Gender, social relations and empowerment**

Alleviating the burden of wood collection through the delivery of affordable electricity and appliances may be an improvement, but women are still responsible for the food preparation and cooking, among many other tasks. Electrification does not *per se* produce conditions which would lead to more equitable gender relations. However it has been hypothesised that the *process of electrification* could be used to facilitate social changes, which may be conducive to more equitable relations between men and

---

<sup>111</sup> In terms of formal education, the school at the SHS site uses a hybrid system including solar power for a donated computer laboratory, and at the grid site the rooms at school where the teachers stayed were electrified. An innovation that year had been to allow the students in their last year of school (matriculation) to study in a classroom at night. The security guard saw to the lights and the safety of the pupils. The extent to which boys and girls made equal use of this facility was not probed (Annecke 1998).

women (Crawford Cousins 1998; James 1998). In the study above (Annecke 1998), the *process of research* may have unintentionally provided an opportunity for men and women to speak to each other in ways that are not usually considered appropriate and, having begun such a conversation and practised a new set of discourses, further engagement may bring about a change of relations in the future:

At the first meeting with women teachers at the grid site, one of the teachers asked why men were not included in the group. She wanted them there because:

Men should pay the money for wood or electricity. Wood is a problem here, the forests are too far to walk to, although we are lucky in this area that the white farmers have forests and sometimes they let us collect a little bit, or sell to us. But sometimes if they catch you you're in trouble. We can't even afford electricity because the men haven't got jobs and just sit around.

Women wanted the opportunity to say this in front of men. Meetings with men and women were subsequently arranged. It emerged that there were vegetable gardens, a sewing group and a block-making group at Cekeza. These were the remnants of projects which had been set up in the area by outside NGOs who had withdrawn when their funding had ended but which the women had continued. The women said that none of these social groups (as they called them) made a profit, any income they received they ploughed back into the enterprises. In the beginning men had participated in the block-making, but once the NGO people had left and there was no income forthcoming, the men 'ran away'. The women who had continued with these activities said they were 'doing good in the community' even if they did not earn an income, and they were hopeful that they would in the future.

The women were more than a little resentful that unemployed man sat around all day while they worked endlessly. Asked why they did not participate or help with other tasks such as wood collection, the men said wood was not their work. As far as the other activities were concerned they simply shrugged and said they could not work for no pay. Women, of course, do this all the time.

There were about twenty men (including the Izinkosis at both sites) who participated either in the interviews or in group discussions. It is clear there are differences between men too (income, age, physical strength, education, occupation, bloodline, family name)

and identities which may be opposed and competing and produce contrary behaviour (Silberschmidt 2001: 667). A recurring theme in the study was the incidence of unemployment which the unemployed men named as the hardest parts of their lives. This has implications in terms of self-worth and identity as well as masculinity (Pineda 2000) and perhaps for the way in which changing gender relations should be seen. In a study of the disempowerment of men in East Africa, Silberschmidt argues that, while patriarchy may be the dominant ideology, not all men are patriarchs and that socio-economic changes have left men with no material base to fulfil the ideology. In fact few men are able to fulfil the obligations of being 'a provider'. As a result they suffer the consequences of diminishing social value (Silberschmidt 2001: 659).

What is curious is how 'even though structurally subordinate, women have responded aggressively to the challenge of economic hardship' (Silberschmidt 2001: 665), taking advantage of projects such as the multi-functional platform in Mali, solar dryers for fruit in Kenya and Uganda and a variety of other projects which enhanced their ability to generate an income (Okalebo & Hankins 1997), whereas unemployed men have returned to rural areas and have done little (see Whitehead 2001 for a different interpretation). However, far from empowering women, their determined economic independence has often led to freeing men from responsibility (Silberschmidt 2001). Women who attempt to earn a living for their families may have to maintain their expected roles as well as take on new ones, whereas men seem to have it easier. Writing in Kenya, Shirima commented:

Very few men help out. Those who do only work sometimes on the *shamba*, and wait at home for their wives to prepare food for them. Many men are engaged in illegal businesses along the border [with Kenya]. They spend their days there, and in the evening they go to bars where (they claim) they exchange views to improve their business and lead their families. Women do not have this opportunity to exchange views, and if you go to visit the neighbour you will be counted as an idle woman. (Shirima 1994: 30)

Burn and Coche, working in Mali, are trying to understand the women-time-and-energy poverty nexus and offer a solution to women's over-work. They perceive the energy poverty is the inability to afford alternative sources of energy when one's own supply or provision is exhausted, and argue that this occurs because:

of an inability to command the energy and time of others using money or coercion (market or household provisioning) and to make more productive use of one's own time. This adds another dimension to the issue of sustainability, that is the sustainable use of women's labour.

Moreover, it [energy poverty] is a gender-biased poverty since women provide their energy and time to others free as an obligation towards husband and family, so taken for granted that it is considered natural. In contrast, motorised equipment is for the exclusive use of men, paid for out of agricultural income. Indeed macro-economic models and accounting systems consider women's unpaid labour as valueless in the economic sense. Even when gender analyses is mainstreamed in project preparation, the economic analyses carried out in parallel fail to include what is arguably the largest sub-sector of transport and energy in sub-Saharan Africa: human traction, haulage and energy. (Burn & Coche 2000: 17)

The solution they offer 'could thus be the disappearance of the human energy self-provisioning sub-sector, particularly for women' (Burn & Coche 2000: 17). Mechanisation may ameliorate women's work, but, as we have seen, it does not necessarily mean greater equality in roles.<sup>112</sup> Commanding labour seems an essential element in power relations. In the study below the difference between commanding labour and task sharing is explored, and it would appear that task sharing might include relinquishing some power too.

Much has been said and written about the limitations of analysing gender in terms of roles and current thinking emphasises the need to go beyond descriptions of roles to analysing power relations (Gregory 1999; McKie et al 1999). We need to know what is it about male/female relations that enables (in the case study quoted above) unemployed men to decline to do work in the community while women continue to insist (unrealistically) that it is the responsibility of men to provide for them. What is it that should change? Structural positions and physical coercion (including domestic violence) play a part in maintaining the power relations, as does recourse to culture and identity;

---

<sup>112</sup> Electric appliances decreased the physical labour but not the time spent by middle class women on their domestic tasks (White 1997).

'gardening is not men's work' the men said. This was despite the fact that they knew of male farmers and men gardeners. 'Sewing is women's work' they said; even though most tailors in urban areas in Africa are men. On the other hand block-making became women's work as soon as it was un-profitable.

Despite the majority of men who held onto their traditional positions, notions of appropriate male/female behaviour are changing, as is evident from the households in which men assist with domestic chores and the Inkosi's willingness to engage in the research exercise and discussions.<sup>113</sup> These households, the local chief, a teacher, a shop-owner, were those of the slightly better-off, confirming Irene Tinker's finding that the (equivalent of) middle class man show a greater propensity for task sharing (Tinker 1982). One of the characteristics these men have in common are discourses which permit different behaviours and ways of communicating. This is significant in the analysis of power relations and ways to change these is taken up below. An exercise in self-examination showed that task sharing is more complicated than handing over making the fire to cook on; it's difficult for a woman to walk away.

There is an argument in the international (Balakrishnan 1997), African (Owino 2000) and local literature about renewables being a technology which empowers women and in particular about the empowerment of women through the use of solar cookers (Green & Wilson 2000).<sup>114</sup> Women solar technicians are made much of, as are women who are empowered through using solar stoves (Cawood 1997; Green & Wilson 2000; Wentzel 2000). Mandlazi (1999) argues otherwise, as does Qase (2000). The essence of this empowerment lies in having to collect less wood, or collect wood less frequently, and in the imponderable of whether having such an interesting and high-tech appliance might tempt men into sharing the cooking, (or even doing it occasionally), and whether this might change the structure of power in the household (Green 2002). The growing speculation about the possibilities of commanding labour and task sharing (Morgenstern

---

<sup>113</sup> Although progressive in what they wanted for their communities, and not as aggressive to women as the chief in Santombe, at both sites the chiefs' attitude was patriarchal. One boasted that: 'We value our women very much. We even have a women's day when we celebrate, and they cook for us and dance' (Annecke 1997).

<sup>114</sup> There isn't, for example, an equivalent argument about being empowered by being able to use an LPGas or electric stove.



1998) for changing gender relations indicated a need to consider this and a study was duly conducted.

There were two reasons for the study. The first was the one above in combination with a deep curiosity about what oppression and collusion mean, how power relations play out in our every day lives and how to change them (Segal 1990; Mies et al 1988). The second was the challenge to white women in South Africa from black feminists in the 1990s to halt their research on or about black women, and by implication, to start doing research on themselves (Chapter 4). The everyday lives of white South African women have not been scrutinised, interrogated, interpreted and laid bare in the way that black women's have, and certainly not in the energy sector.

The exercise involved the deconstruction of the stereotypical woman's task central to most women's lives: the preparation and cooking of the main meal of the day. An understanding of the dynamic nature of gender as process (McKie *et al* 1999: 27), and power as contingent and mutually constituted between parents and children (Gregory 1999) underpinned the study. Ross points out that power may be generated through the performance of labour or tasks or converting others' labour into relations of dependence (Ross 1993: 192) and it is the experience of reluctance to relinquish this power, brought about through dependence, which is at stake here. The hypothesis was that if similar dynamics operated in other households then task sharing may be facilitated by different discourses which may be designed into gendered development and policy processes. The investigation had some precedent (Pevelberg & Miller 1990) and particularly in home economies (Whitehead 1981).

Critical reflection of personal practice is a legitimate point of departure for change (Roberts 1981: 16). Feminism suggests that women should define and understand their own experiences in order to disrupt old and destructive patterns and practices and proposes that systems and social structures, whether concerned with the economy, the family or patriarchy can best be understood through an exploration of everyday life of which they are part (Stanley & Wise 1983: 58). Foucault (1980) argued that an understanding of power as an integral aspect of all social relationships was necessary for change. These relations of power could be revealed by adopting a micro-perspective which examined individual's behaviour in everyday interactions. He argued the elimination of power relations cannot be achieved by repeating the mechanisms of domination. These have to be broken and he saw the role of theory not to indulge in

grand narratives but to 'analyse the specificity of mechanisms of power, to locate connections and extensions, to build little by little a strategic knowledge' (Foucault 1980: 145). This is what was attempted and part of the investigation is reported here:

The study of my own practice examines the responses of a family to task sharing (Annecke 1999).<sup>115</sup> For eighteen years the main meal of the day was prepared for a nuclear family of four, in the traditional way, by the mother in the kitchen. Each evening she would be:

chopping, peeling, monitoring the stove, boiling, baking, stirring, tasting...in control, not always willingly, not always with the magazine-required Happy Mother smile, but present, commanding authority, dominating the space, directing the operations, managing the expertise, providing and being useful in a number of ways. The family would wander in and out making coffee, asking about homework, ironing a shirt, chatting....

After many years and for a number of reasons the mother announced that she was not going to cook supper any more, and that each person should take responsibility for cooking and cleaning on one night of the week. This duly happened. The woman, at that stage, had the power to command labour (Ross 1993; Burn and Coche 2000). What was interesting was the woman's response to her liberation. Having wanted and directed this change, she couldn't implement it. She could not keep out of the kitchen at supper time: she was there to question judgements, offer advice, check the heat of the stove, remind what else needed to be done.

It was unexpectedly difficult to give up the control of the kitchen and supper routine, and other activities had to be consciously sought. Unbeknown or unacknowledged by the woman was that an important part of her identity was defined in the course of these useful and nurturing activities (Meyer 1991). Furthermore other intra-household dynamics began to change too. As the family became responsible and acknowledged in the kitchen, addressing them as inferior or irresponsible in other situations became more difficult. More appropriate 'adult' ways of communicating had to be found and became

---

<sup>115</sup> Again I adopt the clumsy third person for personal distance.

the norm. That is, initiating a shift in the power relations in one area, had ripple effects in others.

The hypothesis was that this experience may be applicable to other households too, and the investigation turned to an illegal informal settlement, Canaan, where a women's group were monitoring their energy use – paraffin, candles and wood – in an effort to determine their considerable daily expenditure on domestic fuel. The domestic routine was a familiar one:

Preparation began in the late afternoon and would take up to two hours. The demeanour of Gretta, the woman of the house, changed as she assumed her role.<sup>116</sup> Her shoulders straightened and her voice deepened. She decided what she was going to cook. Children were sent to collect *mfino* or greens which grew wild. When they came back they were sent to buy a litre of paraffin. Instructions were given to chop the greens. When the paraffin arrived the stove was primed and lit. Water was set to boil, salt added, the mealie meal measured and sprinkled into the boiling water and tended from time to time. On this particular evening there was a special treat of thick sausage given by a neighbour in return for Gretta having cared for her children while she had visited her rural home. The single flame meant that the sausage had to be fried once the phutu was cooked. This all took a while. A school-going child sat and did his reading homework while the younger children ran in and out, asking several times whether supper was ready. Gretta's partner came in, sat on the bed turned on the radio. His legs got in Gretta's way and after a short while, he went out telling the children to call him at the shebeen when the food was ready.

This was Gretta's space. Her authority was absolute, her position was central to the endeavour. She decided how loud the radio should be, when the candle should be lit, and when everyone should be called together to eat. She served herself last and sat down in the corner. The noise and excitement gave way to concentrated eating. As the meal progressed, the children started talking again and Gretta's partner spoke above them. When everyone was finished, the plates were cleared and stacked without her moving. She had become smaller and bent. Her presence and importance had diminished and continued to do so as the squabbles about clearing up took over and her

---

<sup>116</sup> Part of Gretta life story is recorded in a book of short stories (Ndukwane et al 1992).

partner reprimanded the children and sent them to bed. This pattern was repeated in most of the households where there was a man and children present.

How easy would it have been to share or relinquish this task and the concomitant authority and space? To find out some women were asked: 'How would you react if your husband wanted to cook the food?' Others were asked: 'What would your reaction be if the government passed a law making fathers share child-care?' (Meyer's 1991). The responses were all in the vein of: 'Hey! I wouldn't trust him.'

Commanding labour implies maintaining control. Task sharing may involve an exchange of power and compromise. It is important that energy project planners consider the difference and determine whether they and the participants want to establish gender justice or authority and control (Komter 1991). From these two case studies, the analysis proceeds to wider analysis of power, exploring ideas on the location of power which may be helpful when we have to think strategically about influencing policy and planning (Ramazanoglu 1989; McKie et al 1999). It also considers the role of discourses surrounding women's roles, family and oppression (Stanley & Wise 1993) and finds Delsing's Foucauldian analysis useful, as is Davis' (1991: 82) point that being exposed to and internalising, albeit imperfectly, changing gender discourses and ideas of the women's movement, is very important to a common awareness and negotiations for equity in the household. Opportunities for exposure to such ideas and practices are offered more to middle class and educated people than to poor (McKie 1999) so it may be important to make such opportunities for poor people too.

### **Other strategies: can numbers do it?**

Making women as consumers visible, increasing access to energy services, income generating activities and task sharing at a household level are strategies for improving gender justice in the energy sector. However there are several other approaches too which are being implemented: increasing the number of women employers and employees especially in decision making positions is one, and considerable advances have been made in this regard since 1990. Although no official audit has been done of the sector, the DME and Eskom are likely to be the employers of the largest number of women in senior positions. The number of women in the DME has gradually increased

from 1994, but it was with appointment of the current Minister, Ms Phumzile Mlambo-Ngcuka in 1999, that women's interests in the sector received a considerable boost.

The statistics for the DME do not differentiate between the minerals and energy sectors (Personal communication van den Berg, 2001) but show an increase from thirty-one women employed in positions below middle management to fifty-five women employed from senior management to professional posts from 1994-2000 (DME statistics 2001). These are likely to be primarily in the energy sector. Although women in mining have begun to receive attention, there is still much to be done (Personal communication van den Berg, 2001). The number of women in senior management positions at the DME increased from none in 1994 to five (out of forty-six) in 2000; and in middle management positions from six in 1994 to sixteen (out of ninety-three) in 2000 (DME Statistics).

However this remains well below the 30% required by law and the White Paper of 1998. President Thabo Mbeki acknowledged in his state-of-the-nation address in 2001, that government departments' failure to reach their gender equity target of 30% shows that black women remain the most disadvantaged category in the labour market (Molefe 2001: 105).

Most of the female appointments in the DME have been black women, who have increasingly made their mark on the energy sector. Senior appointments include Deputy Minister Susan Shabangu, who was appointed in 1994. Kosi Lisa was appointed Director: Renewables in 1997, the late Nadir Davis<sup>117</sup> was appointed Director: Electrification in 1999 and was succeeded by Nelisiwe Magubane. Winifred Mandhlazi was appointed to Deputy Director: Non-grid electrification in 2000. Shoki Bopape was given senior gender and transformation responsibilities, as was the late Pretty Javu. Snoepie Mabusela took over responsibility for this portfolio. A senior white women, Elsa Du Toit was appointed Director: Energy Supply in 2002. Earlier in the DME's history, Ulrike Kidgell gave fellow women researchers support and encouragement, and produced a paper in collaboration with Cecile Thom (1995), as did Marlett Wentzel

---

<sup>117</sup> Davis, a talented young electrical engineer, was seconded to the DBSA to oversee the restructuring of the electricity industry towards the end of 2000. She died tragically in January 2001.

while she was at the DME. Yvonne Blomkamp, the editor of the *Journal of Energy in Southern Africa*, which was funded by the DME, was responsible for seeing that Annecke and Ross's work was published (1994).

The appointment of women is no guarantee that women or gender relations will receive attention. Despite her training in gender issues in the trade unions (Dove 1989), the appointment of the Deputy Minister in 1994, had not made any difference to women's interests in the sector. She had not, for example, seen to the establishment of a gender desk while she served under the two male ministers, 'Pik' Botha and Penuell Maduna. Minister Mlambo-Ngcuka has a record of championing women's interests. Soon after her appointment in 1999, she appointed long time colleague and Western Cape activist, Gertrude Fester, as the Transformation Officer in the DME.<sup>118</sup> Sexual politics, absent from most energy and development programmes (Wieringa 1998) and noticeably absent from the DME were put on the agenda (Wentzel quoted in James & Simmonds 1997: 219). The gendered power relations acknowledged in the White Paper are those at a household level where it is perhaps the most difficult and complicated for the state to intervene and/or legislate and have not yet been tackled (White Paper 1998: 37). However everyday gender relations have under the new minister. The organisational relations and practices which make it difficult for women to do their work (James 1999) and the set of arrangements which constitute 'glass ceilings', and prevent women from reaching the top, were not attended to by the male ministers. In fact, the mandatory departmental gender desk had been considered a waste of time under both men and not established (Personal communication Mandlazi 1999, 2000).

All this changed rapidly under Minister Mlambo-Ngcuka. By the end of 1999 all men at the DME had signed a Gender Pledge, a unique and revolutionary document inspired by Fester (Personal communication DME official, 2000). Few recognised the significance of this document, which locates sexual politics at the heart of all daily activities and gender relations. Nor has it been given the attention it deserves. Perhaps staff foresaw its impermanence. It reads:

---

<sup>118</sup> Fester was seconded to the office of the ANC mayor in Cape Town pending the municipal elections in November 2000. The ANC lost the elections to the Democratic Alliance. Fester was appointed to the Commission on Gender Equality in mid-2001.

The Department of Minerals and Energy

'Women's emancipation is society's freedom'

The energy to uphold gender equality

Individual pledge

I, .....

Will not be violent towards women

Will resolve gender conflict in a peaceful and amicable manner

Will publicly support women who are victims of violence

Will strive to challenge other men not to abuse women

Will respect women's right to say no

Will educate and socialise my children to respect both men and women

Will encourage women to break the silence to make a difference in order to stop the violence

Will assist with the eradication of sexual harassment, sexist attitudes and gender stereotypes.

The Department of Minerals and Energy men pledge to:

Be gender sensitive and not discriminate against women

Support the empowerment of women in the Department and outside

Encourage and support women to further their careers – especially those careers previously seen as men's domain

Break down race and gender stereotypes

Acknowledge and accept biological and gender differences with subsequent limitations

Respect and support our leadership irrespective of gender

Respect relationships with our partners and not create intentional tension and frustration

Endorse the view of the President on gender equity and equality in order to make the Africa Renaissance a reality.

A formal signing ceremony and celebration was held to launch the Pledge. It stands as an example of what was considered necessary by the DME employees who drew it up, and what might be achieved with commitment from men and women to work together to achieve gender equality. It does not shy away from gender violence or sexual politics in the office and could be upheld as a feminist attempt to change social processes.



Unfortunately the commitment was superficial and a year later the gender and transformation officer confessed that she found the gender transformation process 'too much, too exhausting':

I used to think I had energy for this, but I don't. I've tried a mixture of radical and tactful – you know, being tactful and diplomatic. Nothing works. To tell the truth I feel like giving up.... I am so tired of the subtle undermining, the body language, the hints.... You know black men are even worse than white men. Sometimes they learn the right words to say, and then as soon as you are not looking.... The Minister is supportive. She is really trying. She wants to get someone full time. I think that is the only way it will work. Somebody at the level of Director, not just a Deputy Director... someone who will just move in and say 'that's the way we do it ...' and not take any nonsense or try and be tactful. For the moment I've just put it aside. I just don't know how to make this thing work. I thought I was energetic and skilled and passionate about this, but now [a year later], I'm just tired. Sometimes I just sit here and wonder what to do. (DME official 15.11.2000)

It could be asked whether it is the role of the energy sector to transform gender relations. If the greater project is a society which incorporates gender justice as one of its principles, then it must be the business of all sectors to promote gender mainstreaming in their policies and practice. This is one of the reasons for establishing gender desks in all ministries.

The new Minister has initiated other changes too. A conference of women and energy was held and an annual Technology for Women in Business (TWIB) award ceremony in the Department was introduced. Most of the awards in the first year (2000) went to women in small-scale mining but Ms Dolly Mokgatle won an award for her appointment to Director of the Transmissions Group in Eskom (Mlambo-Ngcuka 2000). The number of awards for women in energy have increased steadily since then (*Eskom News* 2002).

Another landmark for women's participation in the sector was achieved when the first two days of the African Energy Ministers' Conference held from 11-12 December 2000 in Durban was devoted to the Women in Energy Ministerial Meeting. The purpose was to discuss and explore possible policy, financial and socio-economic solutions for problems experienced by African women with regard to the energy sector. This

conference brought together high powered women and men from powerful sub-sectors internationally. There were several unusually interesting papers ranging from using solar pasteurisation against cholera in water and HIV in breast milk (Nohr et al 2000) to professional leadership and training for women (Gitobu 2000) through to advice from Petora Snethcamp (2000) on how to speak the language of large oil interests and prospectors and influence their actions (ESMAP 2001).

At the end of the conference, the Durban Declaration was signed by 32 African countries. The ministers agreed on the need to make energy sector policies gender sensitive and to enhance, increase and support greater participation by women in energy policies, projects and programmes. The African Energy Ministers agreed to:

- Communicate the outcome of the conference to their heads of state, development partners and critical government departments....;
- Facilitate strategies, action plans and programs that benefit women at national and regional levels;
- Review the financial impact and make the necessary planning for the initiative;
- Encourage financial institutions including micro-credit to facilitate women in accessing modern energy services;
- Exchange information annually at the Africa US Energy Ministers' meetings and other forums.... (Durban Declaration 2000: 145)

Other key issues from the conference were:

- To ensure effective engagement and participation of women in the sector;
- Women leaders need to be prepared and the numbers increased;
- Socio-cultural relationships which are oppressive should be challenged;
- Technology shift and pricing policies need to be targeted to women;
- Best practice for increasing women's participation needs to be disseminated;
- Energy development services should be coupled with other sectors and services. (Nyabeze 2000)

This is an important communiqué which women can use in order to hold their governments accountable to their obligations to women. Since the conference US

sponsors in conjunction with Energia have undertaken gender training with staff (men and women) from the DME (Personal communication Gore and Clancy, 2001), Namibia has reported on its Sustainable Energy and Gender paper (Wamukonya 1999), Tanzania has shown growing concern for women and energy matters (Koerhuis 1998; Kaale 1999) and Uganda has undertaken a participative, bottom-up exercise to develop an engendered energy policy. The draft of this is due to be completed at the end of October 2002 (Sengendo 2002).

Women have moved into other parts of the energy sector in increasing numbers too, raising the profile of women generally. Various educational interests in conjunction with oil companies and the electricity utility increased the number of women studying engineering, in particular chemical and electrical engineering. In 2002 the University of Cape Town announced that 'Women are slowly carving a niche for themselves in the male dominated (sic) professions of engineering and science. At UCT there were 57 women studying engineering in 2000 – double the number in 1985... and in 2001 40% of the first year chemical engineering students were women' (*Cape Times* 15 August 2002 [www.africaninspace.com](http://www.africaninspace.com)). Several women have been appointed to top posts in the South African petroleum sector, Dr Renosi Mokate is CEO of the Central Energy Fund and in 1999 Almorie Maule was appointed CEO and MD of Engen Petrol and the South African Petroleum Industry Association (MEPB 2000: 6).

Eskom has become a leader in promoting women. In 1994 12.7% of the workforce were women, 83% were white, 17% black and 5.3% of women were employed in managerial positions while 69% were employed in semi-skilled/unskilled positions (Ruiters 1995). Black women constituted 2% of the total workforce and 80% of these were employed in semi-skilled/unskilled positions. Black men comprised 52% of the workforce, 91.4% of whom held semi-skilled/unskilled positions. Eskom is a major provider of engineering bursaries but Ruiters noted with concern the low number of women bursars and women trainees, in 1994 over 50% of bursars were white men.

After 1994 Eskom introduced an affirmative action and women's empowerment programme. The latter included sponsoring a quota number of women at universities and technikons to study engineering each year. In 2000 Eskom employed 21 women engineers in a variety of positions (Johnson & Fedorsky 2000). In 2001 Eskom announced the appointment of women to senior positions including Executive Director (Transmissions), and People Development Manager. The first woman power station

manager was appointed and Eskom offered employment to 40 women who had completed the theory part of the MSc degree in Engineering Business Management under the Eskom bursary programme (*Eskom News* 2002: 32). Leadership support programmes for women have been established so that women in senior positions do not feel isolated. In 2001 Eskom issued a policy directive to maximise purchases from black, women-owned suppliers by setting aside certain tenders for women, negotiating with them only, providing assistance in tendering, permitting price matching, and arranging for expedited payment. Eskom also introduced an annual 'Women in Energy' award. In these ways Eskom has endeavoured to meet its commitment to gender equality (<http://intranet.eskom.co.za/eskom.news./main.html>; *Eskom News* 2002 ). Eskom has become in many ways, a different institution to that founded by Smuts and van der Bijl, run for and by white male engineers (Christie 1984). The commitment to redress the imbalances of the past has made a difference but women still hold only 19% of senior positions in the utility.

Deputy Minister of the department of Arts, Culture, Science and Technology, Brigitte Mabandla argues that there are still too few women taking science subjects at school, or graduating from universities (Mabandla 2002). Member of Parliament Naledi Pandor reported that the education ministry's Gender Equity Task Team provided 'horrifying evidence' that the disempowerment of women has taken hold in schools, where sexual harassment goes largely unchallenged and prevents girl students from attaining their goals (*Cape Times* 16 March 1998: 6). Women reporting from all over the world (Makhubu 2002) had much the same quantitative and qualitative evidence. Although conditions have improved, there is still a great deal of ground to cover before gender justice is achieved.

Internationally the field of women and energy has grown in terms of literature, projects and programmes. Much of this expansion has been due to the work of three women, Dr Joy Clancy, Dr Margaret Skutsch and Elizabeth Cecelski who together founded Energia in 1995. This is an international network with the goal to engender energy and empower women through the promotion of information exchange, research, advocacy and action aimed at strengthening the role of women in sustainable energy development. Its initial focus was Africa but inroads have been made in Asia and Latin America too (Oparaocha 2000). Energia was established in response to the energy initiatives that began to arise from the 1992 UNCED Conference in Rio, and the shift to a more active

role for women within science and technology development from the Beijing Conference of Women in 1995 (Cecelski 1995; Clancy 1999). Since 1995 there has been increasing recognition in international agencies of the linkages between women and sustainable development (SEI 1999; Clancy 1999) and growing interest in devising appropriate strategies which relate to women and energy (Clancy 1999; UNDP 1999). There is an ever increasing number of women energy professionals whose working experiences are valuable. At the field level there is an increasing number of practical experiences with women and energy projects, where women have been either the target group, have become energy entrepreneurs, or have been engaged in policy formulation and implementation (Clancy 1999). All these interests are drawn together in the *Energia* network, which now has nearly 2,000 members (or member organisations). It links women and men from Latin America to Nepal and from Laos to Fiji. *Energia News*, the group's newsletter has made it possible for diverse interests, from solar energy (Everts & Schulte 1997) to transport (Starkey 1998), and preparation for the World Summit on Sustainable Development (Hemmati 2001), to be discussed.

*Energia* in conjunction with UNDP and Winrock hosted a meeting in Nairobi in March 2000 which was attended by DME officials and several other representatives from South Africa. Regional and local focal points for the dissemination of information were decided upon and the Minerals and Energy Policy Centre (MEPC) agreed to host a launch of a regional Southern Africa Gender and Energy Network (SAGEN) in August 2001. This was duly done. Background papers for the World Summit on Sustainable Development held in Johannesburg from 26 August – 4 September 2002, have been the focus of much of the local work done since then (*Energia News* 2001; Annecke & Makhabane 2002; Makhabane 2002). The outcome of the Summit, however, the Johannesburg Memorandum, is disappointing for women and the energy sector. Women are barely mentioned and no targets are set for renewables to become part of mainstream energy supplies in developed countries. The Women's NGO Caucus's assessment is that overall the final document integrates gender throughout much of the text and contains specific references to:

ending violence and discrimination against women; reducing mortality among girl infants and children; increasing women's participation in decision-making; ensuring education for all; mainstreaming gender in policy-making; access to health; access to land; and developing gender disaggregated data. However, the

Summit failed to establish the international governance structures and resources necessary to ensure that these words will be transferred into action. (WEDO report from the WSSD, email 8 October 2002)

Serious work has still to be done for women, gender and energy to be mainstreamed as intended by the CSD-9 Women's Caucus (*Energia News* 2000) and the UNDP (McDade & Bonini 2001).

## **HIV and AIDS**

It would be inappropriate to write about women's burden at this time in South Africa's history without referring to the HIV/AIDs pandemic. Although the HI virus is reportedly spreading at a rapid rate in South Africa, this did not appear to be the cause of women's complaints when the comparative grid/off-grid study was conducted in 1998. However a trend was noticed which is, by now, likely to a pattern worthy of attention. At both sites there were young women between the ages of 28 and 35 who had 'come home' from work places in urban areas with three to four children in tow to be cared for by their mothers. The young mothers were ill, too thin and frail to contribute to the household or domestic chores in any way. The children, born in urban areas held urban aspirations and followed fashionable trends. They did not want to be in a rural area. The grandmothers were in the 54-58 age group, too young to receive state pensions, too old to start carrying wood and water for an entire household again. They said they had 'sacrificed all their lives' in order to be looked after in their old age and now they were even worse off than they had been in their youth. There was growing generational resentment and no obvious solutions. In these cases a life line electricity tariff may be one way to alleviate some of the burden on older women.

In 1998 the National Electricity Regulator proposed a poverty tariff to be administered by Eskom. Pilot sites were announced in 2001 (Gqulu 2001: 7), but obviously will not assist those without grid connections. A Basic Income Grant is currently being investigated (Baskin 1998), which may assist poor women, who as the primary caretakers, are going to need help in order to care for the growing number of ill people.

## **Conclusion**

The problem was defined as women's invisibility and powerlessness in the energy sector and the veracity of this statement was demonstrated in a brief overview of the

history of the energy sector in South Africa. In seeking an understanding of this oversight, a series of relationships were explored; the relationship between progressive research and feminist research; the relationship between feminist researchers and black feminists; the relationship between feminists and the development of energy policy and organisational practice. Relationships exist between people, ideas and resources. The confluence of these produced conditions which saw the emergence of an activist group of women in the energy sector who attempted to understand the conditions of poor women and influence the development of new policy to address these conditions.

Thus it was that solutions to women's subordinate position have been sought and found in research, policy making, increasing the numbers of women employed in decision making positions, establishing support for women working in the sector, in networks and defining men's roles in relation to women in the ministry. Much of the visibility and participation of women in the energy sector has happened as a result of women's own volition without support or prompting (the first research, the independent women consultants). Some important interventions have been the result of felicitous appointments (the President's appointment of a feminist woman Minister). However, the work that was done with the intention of 'making a difference to the conditions of women' has not yet been formalised in policy documents.

The locus and status of women's energy service needs and activities will be most clearly revealed in the national policy framework. Since this has been shown to be woefully lacking, energy policy needs to be re-examined. The details of the differential impact on men and women of macro-issues such as black empowerment in the liquid fuels sector, public funding of the nuclear industry, electricity pricing, micro-credit facilities, domestic tariffs and connection fees, and middle class women's energy consumption patterns are not explored here. In a rigorous review of gender sensitivity in energy policy, the implications for men and women of all policy statements should be examined.

Policies are needed which could address both the politics and practicalities of the current imbalances. Four elements: access, availability, security and sustainability of energy services and particularly wood supplies, were identified as essential for poor women at the UNDP/ ENERGIA/ ICLA regional workshop held in Johannesburg (UNDP 1999). In some cases the solutions lie beyond the jurisdiction of the energy ministry. To be effective the DME has to integrate its development plans with those of



other sectors (White Paper 1998: 30). Thus far there has been too little of this happening, particularly with regard to forestry (Fairhurst 1997). In so far as the right to own and inherit land is concerned, the DME could make a policy statement, establish a process and set aside resources to work with the Departments of Land, and Water and Forestry to facilitate women's ownership of land – especially for forestry.

In so far as attending to the unequal power relations which the White Paper (1998: 37) acknowledges are an inherent part of women's subordinate position, oppressive structures and practices will have to be changed so that equity becomes a lived rather than rhetorical principle. Ensuring that women attain the same rights as men to inherit land and changing oppressive customary laws may not appear to be a function of the DME. However if the DME is sincere in addressing energy poverty, it will have to work with other departments to ensure these changes are made. It will have to work towards securing for all women the ability to determine their own futures on the land and in the kitchen. These are not insignificant challenges.

The options offered by the Green Paper with regard to challenging inequitable gender relations should be re-visited. In addition the lack of success in implementing the policy of at least 30% representation of women on all decision making structures should be evaluated and the reasons for its failure addressed. It is disappointing that men at the DME have shown their unwillingness to adhere to the Gender Pledge and greater attention should be given to gender training and mainstreaming in all DME activities. Tools for this purpose are available (Govind 1995; Skutsch 1997; SIDA 1998). However it should not be necessary to engage the services of international agencies as the DME did in 2001 (above). Gender training expertise resides in abundance in South Africa. The DME commissioned the development of a gender framework for all its work (Hooper-Box et al 1998) but has not used it. The methods and framework suggested in this thoughtful paper should be tested, revised and become mandatory for DME employees.

The DME has decreased its research budget (White Paper 1998). However a better understanding of the issues at stake would enhance the energy sector's ability to integrate gender into its planning. This is necessary and should be funded (James & Simmonds 1997). Cecelski identified areas generally neglected in gender research and policy making as promoting the energy transition, energy efficiency, renewable energy

and sustainable transport. She advocated a number of concrete actions, similar to those above, which would facilitate women's entry into and empowerment in the sector:

- better data collection and gender disaggregated data;
- addressing gender issues at the policy, project and international levels and creating a home for such studies;
- providing policy makers with tools, concepts, case studies and support needed to undertake gender-sensitive planning;
- improving education and training for girls and removing barriers to careers for women in the energy sector;
- increasing dialogue between women participating in lobbying, grassroots activism, advisory panels, ministries, national women's organisations and political parties to influence energy policy. (Cecelski 1995: 570)

The next steps in the series of relationships to be explored are those between 1) policy formulation, its implementation and the gender biases therein, and 2) the economic empowerment of women to bring them on a par with men.<sup>119</sup> Policy to install solar home systems should be reviewed and further research and monitoring done. While current uptake levels remain low, it would appear that grid connected households were optimistic about increasing their electricity use but needed employment and income to do so. Owners of solar home systems were disappointed that their systems could not be used for cooking, and did not show the same degree of optimism as the grid connected households. Nonetheless the DME is persisting with their intention to supply solar home systems and LPGas stoves to thousands of households in rural areas (Morgenstern 1998; Dingley 1999; IRIN 2001: 9). One thing is clear that electricity, unless it were to be supplied free of charge with the necessary accompanying appliances, cannot solve the energy problems of the poor women or men (Annecke 2000). Integrated solutions, including the supply of biomass, should be sought.

---

<sup>119</sup> There are few women who have a financial investment in the energy sector. However there are women entering the petroleum industry as shareholders, and the Minister has recommended that ways be found to ensure that ordinary women benefit from becoming shareholders in Eskom when 30% of the utility is sold off in 2003 (Mlambo-Ngcuka at the World Summit on Sustainable Development, Johannesburg 28 August 2002).

In so far as developing an action plan for implementation and monitoring at all levels of government is concerned, a conceptual framework has been devised. It analyses the conditions regarding energy activities and services as they relate to women's needs and specifically income generation, and identifies the structures and support required at different levels of government to facilitate delivery. Its purpose is to identify the strategic leverage points at which intervention is necessary, or most likely to succeed, or where previous neglect of women's needs has led to the lack of success of energy projects for women (Annecke 1999). The framework has six primary components which operate at four levels: national, regional, community and household, with a further analysis required at the community and household levels. The latter two are usually the focus for decentralised energy systems and projects. This is the level at which poor women's energy needs are expressed and at which energy for income generating purposes is generally not well understood. The three tiers of government prior to community activity may add to the difficulty of staying in touch with grassroots perceptions, and thus feedback loops should be part of the structures at every level. The components of the framework which should operate at national and provincial and local government level are:

- examination of the inclusion (or exclusion) of women's energy activities and services (including those for income generation) in national policy and how this is communicated downwards;
- the fiscal and other resources dedicated to women's energy needs at all levels;
- the policy implementing agencies and their efficacy at all levels ;
- the identification of barriers to change at all levels;
- the identification of appropriate support measures and incentives at all levels.

At the community and household level further components of the analysis are:

- women's access to energy services;
- the availability of energy services;
- the security of energy services;
- the sustainability of energy services. (Annecke 1999)

These steps are explored and recommendations made in Annecke (2000), but the necessary resources are not available. Even if there were political willingness, changing

the budget allocation channels is a slow process. It could take up to three years to shift resources in favour of women's energy needs.

It has been suggested that since women's energy needs have not been met, that the focus on women's concerns be shifted to a focus on 'a healthy society' rather than women/gender (Wamukonya 2000). The argument presented is that increasing the number of women in decision-making positions has not had the desired effect in terms of incorporating gender concerns into policies and projects. A different way to achieve this objective would be to create an environment where these issues would be permanently on the agenda. The way to do this would be through weaving women into the 'business as usual' scenario by focusing on energy services for activities such as food processing and production where women are involved. The synergies between women's health and energy for food processing and production, for example, could then be should be exploited and this 'impact and service assessment' approach would ensure the mainstreaming of gender issues (Wamukonya 2000).

Women living and working in Africa believe that organisations such as that represented by Wamukonya above, avoid the real issues that have to be dealt with. Persuading men and women towards gender justice implies a considerable shift in consciousness (Annecke 2000), and a political commitment. At a seminar on women and development, a representative from the Zimbabwean Resource Centre said:

In retrospect, I think donors did not want to deal with the 'hardware' of women's issues and preferred to remain darlings of the Government by capitalising on so-called income-generating projects which never generated any income. Issues of power and control were sidelined as non-issues or cultural issues. (Anonymous in *Agenda* 1997)

It is not just donors who are reluctant to tackle the 'hardware' of women's subordination. Governments and civil society, men and women hold onto traditional forms of power and control. Apart from relationships between individuals, there is a bigger picture at stake. For as long as we describe domestic tasks as women's roles and attempts are made only to ameliorate poor women's burdens rather than shift or share them, the CEDAW obligations to which South Africa became a signatory in 1996 will not be met. Gender Commissioner Beatrice Ngcobo says women's needs have still to be fought for because 'six years down the line there are women who still have not had the

taste of democracy' (quoted in *Agenda* 2000: 105). Head of the African Gender Institute, Amina Mama (2002), points out the continual over-representation of men in almost all walks of African life, and describes the withdrawal of attention from women as gross over-reaction. She argues that it is quite clear that gender struggles are nowhere near complete:

It is entirely outrageous to suggest that 'we have done the gender thing and now we can move beyond it'.... African societies are so clearly demarcated by gender divisions that it would be strategically suicidal to deny this and pretend that gender doesn't exist or worse still that gender struggles are a thing of the past. (Mama 2001: 50)

Ideally, gender justice in the energy sector would mean that:

1. The principle of gender equality as enshrined in the constitution would have to be adhered to in every way in the White Paper.
2. In particular the differential impact on men and women of each policy statement would be considered and accounted for in the longer term. That is to say, that not every inequity could be righted immediately or by law, but that priorities would have to be set, resources allocated, and goals monitored.
3. Women and men should be afforded equal opportunities and conditions of service within the sector. The sector would serve women and men equally well, and all co-ordination necessary for this would be resourced and effected.

In the last 100 years women's progress in the energy sector has been considerable. Women have emerged as powerful participants and decision makers in several forums. The fact that for many women conditions have not improved means there is still a great deal of work to be done.

## **APPENDIX**

### **Constitution of the Women's Energy Group**

#### **A. Background information**

As South Africa is moving towards its first democratic government, people realise that even greater difficulties will be encountered along the road to economic reconstruction of our country, than during the political transformation. The majority of the population have been deprived of basic services, and the new government will have to create a framework to attend to the development needs of the people.

No development can take place without resources, and energy is one of the most sought after. Energy is not only needed for production processes. The very livelihood of the population depends on the availability of energy, for preparation of food and in maintaining a minimal comfort in homes, tasks which are performed mostly by women.

Yet the majority of the disadvantaged women in South Africa do not have access to energy at the present.

Where energy is available, it cannot be used effectively because of the costs. Women resort to the use of hazardous energy sources like paraffin, especially in the rural areas. When it became apparent that there was no reflection of women's interests in the restructuring of the national energy policy currently under discussion at various forums, a group of women initiated WEG in mid-1993.

#### **B. Preamble**

The Women Energy Group is a voluntary association committed to putting technology and science at the service of South African women, especially those who are most disadvantaged socially and economically.

#### **C. Name**

The name of the Association shall be the Women Energy Group; hereafter referred as to the WEG.

## D. Aims and objectives

### *Aims*

- To promote an integrated concept regarding both the provision and utilisation of energy.
- To ensure that the pattern and dimension of energy provision to the disadvantaged groups are gender-sensitive.
- To utilise women's potential and creativity to produce new affordable production and household devices.
- To conscientise South African society, especially young women and girls about new careers for women in technical fields.
- To contribute to the development of non-polluting renewable sources of energy for domestic use and small scale production.

### *Objectives*

- To monitor the needs of South African women in energy and other technological services.
- To assess and prioritise these needs and formulate them into concrete proposals, then advocate for their inclusion into national/ regional/ local programmes.
- To evaluate major developments in the technical field in the country from the point of view of their effects on women.
- To propagate technological science amongst young South Africans, especially the girls, in order to break away from the prevalent stereotypes of gender-based division of labour and skills.
- To seek resources for technical training of girls and women.
- To educate communities, women especially, on safe and economically sound utilisation of domestic, communal and production energy appliances (sic).
- To propagate knowledge on environmentally friendly technology in order to achieve sustainable development.
- To network nationally and internationally amongst similar formations.



## **E. Membership**

### ***Ordinary members***

WEG is open to women of all races and ages, and it does not consider formal technical or other academic education as the main qualification for its membership.

### ***Founder members***

The six women who initiated the WEG will have the status of Founder Members, and their names are: N. Funde, L.Loza, P.Maholi, L.Mafoli-Shope, R.Mfenyana, A.Noah.

It is the task of the Founder Members to ensure that the WEG starts functioning regularly in 1994.

### ***Associate members***

Men can join the WEG as Associate Members.

### ***Membership fees***

1. The affiliation fee will be R20.
2. The annual membership fee will be R10.

## **F. Rights and obligations**

Every member of WEG shall have the right to:

1. take part in the formulation and implementation of WEG programmes;
2. be elected to any committee, commission or delegation of WEG
3. receive information about WEG decisions and activities, including annual financial statements

All WEG members are obliged to:

1. participate in concrete WEG activities; and
2. share technical information and skills.

## **G. Structure of WEG**

### ***1. AGM***

- The AGM will be called once a year, where an annual report will be received and evaluated, including an audited financial statement.
- The AGM will draw the WEG annual workplan.
- Fifteen members constitute a quorum.
- The AGM takes decisions by a simple majority.

### ***2. Secretariat***

The Secretariat will be elected at an AGM by all the members. it will consist of three persons: Chairperson, Secretary and Treasurer.

Members of the Secretariat will be co-signatories to the bank account, which will be opened under the name of “Women Energy Group (WEG)”.

It will be the task of the Secretariat to ensure that the workplan adopted at the AGM is implemented to the maximum.

### ***3. Advisory Board***

The Advisory Board will consist of the founding members and additional members who will be appointed and removed by the Secretariat.

### ***4. Provincial branches***

Installation of these will depend on the initiative and the needs of the provinces.

Associate members share all the rights and obligations, except voting rights. They cannot take positions on the Secretariat, but can be members of the Advisory Board.

## **H. Amendments to the Constitution**

A two thirds majority of an AGM can amend the Constitution on the condition that the proposed amendments have been circulated and open for comments.

## REFERENCES

- Abrahams Y 2001. Learning by doing. Notes towards the practice of womanist principles in the 'new' South Africa, in *Agenda* No 50 pp71-76.
- Adams F 1992. Women's Coalition in *Agenda* No 13 pp31.
- African National Congress 1994. The Reconstruction and Development Programme: a policy framework. Umanyano Publications, Pretoria.
- African National Congress Local Government and Gender Task Force (ANC LGGTF) and the Women's Energy Group 1994. Report on the Women and Energy Workshop held in Cape Town 27-28 August.
- Agarwal A 1983. In the forests of forgetfulness, in *Illustrated weekly of India*, Bombay, pp13-19.
- Agarwal B 1986. Cold hearth and barren slopes: the woodfuel crisis in the third world. Zed Books, India.
- Agenda* 1997. The poverty issue. No 33.
- Agenda* 1997. Special issue: South African feminism, race and racism. No 32.
- Agenda* 2001. Special issue: African feminisms I No 50.
- Agenda* (2002). Special issue: African feminisms II No 54.
- Akpula, E, Ofei-Aboagye E & Derbyshire H 2000. *Gender mainstreaming: emerging lessons from Ghana*. Social Development Department, Department for International Development, London.
- Anderson A 1995. *Sasol synfuel protection study*. Arthur Anderson, Johannesburg.
- Anneck W 1991. Out of the fire to find new fetters: the violence of poverty in a shack settlement, paper presented at the conference on Women and Gender in Southern Africa, 31 January – 2 February.

- Annecke W 1992. An in-depth investigation into the use of domestic fuels by urban women in three areas in the Durban Functional Region, report for the Department of Mineral and Energy Affairs, Pretoria.
- Annecke W 1992a. Ideal homes, in Murray H (ed) *A Spirit for Our Times*. The Millennium Group, Cape Town.
- Annecke W 1993. Energy use by women in an urban environment but without access to electricity: a comparison of three areas, paper presented at the conference on Global Change and Social Transformation, Pretoria, 22-24 November.
- Annecke W 1996. The post-electrification study of Loskop –synthesis report. Energy and Development Research Centre, University of Cape Town.
- Annecke W 1997. Reflections on process: issues raised in a study of rural electrification in Kwa-Zulu Natal. Unpublished paper for the Energy and Development Research Centre, University of Cape Town.
- Annecke W 1998. Assistance to NREL regarding the non-economic determinants of energy use in rural South Africa. Energy and Development Research Centre, University of Cape Town.
- Annecke W 1998a. Pebble-beds or paraffin? in *Agenda* No 38 pp43-47.
- Annecke W 1998b. Benefits of electrification to rural households: real or potential? in *Journal of Energy in Southern Africa*, Vol 9 Issue 4 pp120-124.
- Annecke W 1999. From the kitchen to the boardroom: reflections on power relations in gender and energy practice and policy, paper presented at the conference on Improving Women's Access to Energy: Policy, Projects or the Market? University of Twente, Enschede, The Netherlands, 2-3 November, abridged in *Energia News* 2000. Vol 3 Issue 3 pp10-12.
- Annecke W 1999a. The role of electrification in the development of small and macro-enterprises, paper presented at the Association for Women in Development, Washington DC, November 10-14.
- Annecke 2000. Women and energy in Africa: concept paper for the UNDP. Energy and Development Research Centre, University of Cape Town.

- Anneck W 2000a. SMME business opportunities for women in energy, paper presented at the Technology for Women in Business (TWIB) Conference, Pretoria, 24 July
- Anneck W 2000b. LPGas and income generation for women, paper presented at the Annual LPG Association Conference, Gordon's Bay, 6 November.
- Anneck W 2000c. Policy issues: energy laws and their impact on women, paper presented at the African Energy Ministers' Conference, Durban, 11-16 December.
- Anneck W 2000d. Women and energy in South Africa, in *Energy for Sustainable Development* Vol IV No 4 pp44-47.
- Anneck W 2000e. Assessment of the impact of the Southern African Power Pool (SAPP) on the poor of the region. Energy and Development Research Centre, University of Cape Town.
- Anneck W 2001. Engendering energy policy: case study South Africa, in *Generating opportunities – case studies on energy and women*. UNDP, New York.
- Anneck W 2002. The rich get richer and the poor get renewables, in *Agenda* No 52 pp8-16.
- Anneck W 2002a. Climate change, energy-related activities and the likely social impacts on women in Africa, in *International Journal for Environmental Sustainability*. Special issue for WSSD. Vol 2 Nos 3/4 pp206-222.
- Anneck W & James B 1997. Review of the gender review of the GTZ solar cookers field test 1997, for the Department of Minerals and Energy, Pretoria.
- Anneck W & Makhabane T 2002. *Annotated bibliography on women, gender and energy in Africa*. Energia, Enschede, The Netherlands.
- Anneck W & Muller J (forthcoming). Gender and energy: socio-cultural dynamics, in Denton F (ed) *Gender: the missing link to energy for sustainable development*. Enda Tiers Monde, Dakar.
- Annual Report Commission on Gender Equality April 1998 to March 1999. Commission on Gender Equality, Johannesburg.

- Appleton H (ed) 1995. *Do it herself: women and technical innovation*. Intermediate Technology, London.
- Ardington E 1992. Buckpassing in Canaan: an example of authorities' failure to address the needs of an informal urban dwellers. Working paper No 24, Centre for Social and Development Studies, University of Natal, Durban.
- Aron J, Eberhard A & Gandar M 1989. Demand and supply of firewood in the homelands of South Africa. Second Carnegie Inquiry into Poverty and Development in Southern Africa, Post-conference series No 21, Cape Town.
- Aron J, Eberhard A & Gandar M 1991. Fuelwood deficits in rural South Africa, in *Biomass and Bioenergy* Vol 1 No 2 pp89-98.
- Attwood H & May J 1998. Kicking down doors and lighting fires, in Holland J & Blackburn J (eds) *Whose voice? Participatory research and policy change*. Intermediate Technology Publications, London.
- Auf der Heyde T 1993. The South African nuclear fuel industry: history and prospects. Energy and Development Research Centre, University of Cape Town.
- Baden S, Hassim S & Meintjies S 1998. *Country gender profile: South Africa 1998*. Report prepared for the Swedish International Development Co-operation Agency (Sida) Pretoria, Sida and Bridges IDS, Sussex.
- Bahugna S 1984. Women's non-violent power in the Chipko Movement, in Kishwar M & Vanita R (eds) *In search of answers: Indian women's voices from Maushi*. Zed Books, London.
- Bajracharya D, Mahesh B, Ceceski E, Denholm J & Gurung M 1990. Women and the management of energy, forestry and other resources. International Centre for Integrated Mountain Development, Discussion Paper Series No 3, Katmandu, Nepal.
- Bakker H & Skutsch M 1995. Gender and development in the energy sector. Technology Development Group, University of Twente, Enschede.

- Baldwin S 1988. The design of fuel-efficient woodstoves appropriate for underdeveloped areas of South Africa, in Eberhard A & Williams A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town pp277-288.
- Banda K & Makhabane T (forthcoming). Looking up from a rural household: gender, energy policy and implementation in the new South Africa, in Denton F (ed) *Gender the missing link to energy for sustainable development*. Enda Tiers Monde, Dakar.
- Bank L & Mlombo B 1996. 'We live in paraffin and burn it': fire, fuel use and social dislocation in an East London township 1986-1996, in *Journal of Energy in Southern Africa* Vol 7 No 4 pp118-123.
- Bank L 1996. Social determinants of fuel use in low income households in the eastern Cape. Department of Minerals and Energy, Pretoria.
- Banks D 1998. Off-grid electrification for the poor: constraints and possibilities. Energy and Development Research Centre, University of Cape Town.
- Barnard H 1991. Customer opinions on aspects of electricity supply. Unpublished Masters dissertation. University of South Africa, Pretoria.
- Barnes D 1988. *Electric power for rural growth*. Westview Press, Boulder.
- Barnes J & Morris M 1997. Kwazulu-Natal's rural institutional environment: its impact on local service delivery, in *Development Southern Africa* Vol 14 No 2.
- Barrett J 1993. Women and the economy: an analysis of Cosatu's policy, in *Agenda* No 18 pp8-18.
- Barrett M 1980. *Women's oppression today*. Verso, London.
- Baskin J 1998. Basic income grant for South Africa, in *Business Day*, 28 April.
- Bassan E-A 1985. *Environmentally sound small-scale energy projects*. CODEL/VITA, New York.



- Basson J 1988. Results of an integral solar water heater research/demonstration project, in Eberhard A & Williams A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town.
- Batliwala S & Reddy A 1996. Energy for women and women for energy: a proposal for women's entrepreneurship in *Energia News* Vol 1 Issue 1 pp11-13.
- Bazilli S 1991. Feminist Conferencing in *Agenda* No 9 pp44-52.
- Bbumba S 2000. The initiatives to address the energy needs of women in Africa: the case of Uganda, paper presented at the Technology for Women in Business (TWIB) Awards in Pretoria, 24 July.
- Beall J 1998. Trickle down or rising tide? Lessons on mainstreaming gender policy from Colombia and South Africa, in *Social Policy and Administration* Vol 32 No 5 pp513-534.
- Beall J, Bozzoli B, Ginwala F, Gwagwa L & Marks S 1990. Picking up the gauntlet: women discuss the ANC statement, in *Agenda* No 8 pp5-18.
- Bedford L 1998a. Electrification of clinics in Region E, Eastern Cape. Post-electrification study in AmaNtshangase, AmaNdengane, Ludeke and follow-up in Mnceba. Energy and Development Research Centre, University of Cape Town.
- Bedford L 1998b. Electrification of schools in Region E, Eastern Cape. Post electrification study in Ludeke and follow-up in Mnceba. Energy and Development Research Centre, University of Cape Town.
- Beinart W 1987. 'Amafelandawonye' (The die-hards) Popular protest and women's movements in the Herschel riots in the 1920s, in Beinart W & Bundy C (eds) *Hidden struggles in rural South Africa: politics and popular movements in the Transkei and Eastern Cape 1890-1930*. James Currey, London.
- Beneria L & Feldman S (eds) 1992. *Unequal burden: economic crises, persistent poverty and women's work*. Westview Press, Boulder.
- Bennett J & Friedman M 1997. White women and racial biography, in *Agenda* No 32 pp49-55.

- Bennett J 2001. 'Enough lip service!' Hearing post-colonial experience of heterosexual abuse, conflict and sex wars as a state concern, in *Agenda* No 50 pp88-96.
- Bianchi A 1994. Latin America: the effects of policy on energy resources, transitions, and alternatives, in Graham S (compiler) *Energy research in developing countries*. International Development Research Centre (IDRC), Ottawa.
- Bogach V S 1994. Energy options in Central America, in Graham S (compiler) *Energy research in developing countries*. International Development Research Centre (IDRC), Ottawa.
- Bonnin D, Hassim S, Posel R & Walker C 1991. Report on the conference on Women and Gender in Southern Africa. Gender Research Group, University of Natal, Durban.
- Borchers M & Hofmeyr I-M 1995. Workshop report and proceedings. Department of Mineral and Energy Affairs, Report Number EO9418, Pretoria.
- Borchers M & Hofmeyr I-M 1997. Rural electrification supply options to support national health, education and SMME development. Energy and Development Research Centre, University of Cape Town.
- Bordo S 1986. The Cartesian masculinization of thought, in *Signs* No 11 pp439-456.
- Boserup E 1970. *Women's role in economic development*. St Martin's Press, New York.
- Botha P 1995. Foreword to the South African Energy Policy Document. The Green Paper Discussion Document, Department of Mineral and Energy Affairs, Pretoria.
- Bourdieu P 1986. *Distinction*. Harvard University Press, Cambridge.
- Bowles G & Duelli-Klein R (eds) 1980. *Theories of women's studies*. Women's Studies, University of California, Berkeley.
- Bradford H 1987. 'We are now the men.' Women's beer protests in the Natal countryside, in Bozzoli B (ed) *Class, community and conflict*. Raven Press, Johannesburg.pp
- Brookes D & Krugman H 1990. Energy, environment and development : some directions for policy research, in *Energy Policy* November.

- Brooks D 1994. Introduction, in Graham S (compiler) *Energy research in developing countries*. International Development Research Centre (IDRC), Ottawa.
- Brouwer I 1998. When households run out of fuel: responses of rural women in Malawi to decreasing fuelwood availability, in *Energia News* Vol 2 Issue 2 pp9-10.
- Brydon Y & Chant S 1989. *Women in the third world: gender issues in rural and urban areas*. Edward Elgar, Aldershot.
- Budlender D (ed) 1996 *The women's budget*. Idasa, Cape Town.
- Budlender D (ed) 1997. *The second women's budget*. Idasa, Cape Town.
- Budlender D (ed) 1998 *The third women's budget*. Idasa, Cape Town.
- Budlender D 1994. Women in tertiary education, in *South African Women Today*. Maskew Miller Longman, Cape Town pp129-138.
- Budlender D 1997a. Women, gender and policy-making in the South African context, in *Development South Africa* Vol 14 No 4 pp513-529.
- Budlender D, Meintjies S & Schreiner J. 1984/5. *Work in Progress* Vol 34.
- Bundy C 1975. The abolition of Masters and Servants Act, in *SA Labour Bulletin*, May.
- Burn N & Coche L 2000. The multifunctional platform: decentralised energy for gender-aware poverty reduction in rural West Africa, in *Energia News* Vol 3 No3 pp15-17.
- Butler J 1990. *Gender trouble: feminism and the subversion of identity*. Routledge, London.
- Butler J 1992. Contingent foundations: feminism and the question of 'postmodernism', in Butler J & Scott J (eds) *Feminists theorize the political*. Routledge, London.
- Callinicos L 1981. *A people's history of South Africa: gold and workers 1886-1924*. Raven Press, Johannesburg.
- Callinicos L 1987. *A people's history of South Africa: working life 1886-1940*. Factories, townships and popular culture on the Rand. Raven Press, Johannesburg.

- Cawood W 1997. Maphephethe non-grid SHS rural electrification programme, Phase 2. Final report prepared for the Department of Minerals and Energy, Pretoria.
- Cecelski E 1984. *The rural energy crisis, women's work and basic needs: perspectives and approaches to action*. World Employment Programme, International Labour Office, Geneva.
- Cecelski E 1987. Energy and rural women's work: crisis, response and policy alternatives, in *International Labour Review* Vol 126 No 1 pp41-64.
- Cecelski E 1990. Energy and women: forward looking strategies in ESMAP. Draft report to Household Energy Unit, the World Bank, Washington DC.
- Cecelski E 1992. Women, energy and environment: new directions for policy research. Working paper GSD-2 International Federation of Institutes for Advanced Study.
- Cecelski E 1995. From Rio to Beijing: engendering the energy debate, in *Energy Policy* Vol 23 No 6 pp561-575.
- Cecelski E 1998. Gender and poverty challenges in scaling up rural electricity access, paper presented at Village Power '98: Scaling Up Electricity Access for Sustainable Rural Development. World Bank, Washington DC.
- Cecelski E 2001. Why women and energy? Gender perspectives on energy for CSD-9, in *Sustainable Energy News*, Newsletter for INFORSE International Network for Sustainable Energy, No 32 pp4-6.
- Cecelski E, Dunkerley J, & Ramsay W 1979. Household energy and the poor in the third world. Research paper R-15, Resources for the Future, Washington DC.
- Cecelski E with Glatt S 1982. The role of rural electrification in development. A discussion paper from the Center for Energy Policy Research, Washington DC.
- Census 96. Central Statistical Services, Pretoria.
- Chambers R 1983. *Rural development: putting the last first*. Longman, London
- Chambers R 1998. Making a difference, in Holland J with Blackburn B (eds) *Whose voice? Participatory research and policy change*. Intermediate Technology Publications, London pp197-198.

- Charlton S 1997. Development as history and process, in Visvanathen N, Duggan L, Nisonoff L, & Wiegersma N (eds) et al. *The women, gender and development reader*. David Philip, Cape Town.
- Chetwynd J (ed) 1975. The role of psychology in the propagation of female stereotypes. Proceedings of the British Psychological Symposium, Nottingham.
- Christie R 1978. The electrification of South Africa 1905-1975. PhD thesis, University of Oxford, United Kingdom.
- Christie R 1984. *Electricity, industry and class in South Africa*. MacMillan, London.
- Clancy J 1998. Household energy isn't all stoves! in *Boiling Point* No 41 pp32-33.
- Clancy J 1999. Policies, projects and the market - empowering women? Some initial reactions to developments in the energy sector, paper presented at the conference on Improving Women's Access to Energy: Policy, Projects or the Market? University of Twente, Enschede, The Netherlands, 2-3 November.
- Clancy J 2000. Addressing gender needs in the energy sector: capacity building in Africa, in *Energia News* Vol 3 Issue 3 pp22.
- Clancy J 2001. Gender and energy: a northern perspective, in *Energia News* Vol 4 No 1 pp12-13.
- Clancy J 2001. The supply side of the energy chain, in *Energia News* Vol 4 Issue 2 pp1-2.
- Clark A 1997. Compact fluorescent lamps in an international context. Energy and Development Research Centre, University of Cape Town.
- Clarke L 1977. Malnutrition, paper presented to the Institute of Race Relations, Pietermaritzburg, 17 June.
- Cloete E 1992. Afrikaner identity: culture, tradition and gender, in *Agenda* No 13 pp42-56.
- Cloud K 1985. Women's productivity in agricultural systems, in Overholt C, Anderson M, Cloud K & Austin J (eds) *Gender roles in development projects*. Kumarian Press, Connecticut.

- Cock J 1980. *Maids and madams: a study in the politics of exploitation*. Raven Press, Johannesburg.
- Commission on Gender Equality <http://cge.org.za>
- Commission on Gender Equality Information and Evaluation Workshop Report, Gauteng Province June 1998.
- Connell RW 1995. *Masculinities*. Polity Press, Cambridge.
- Crawford Cousins C 1998. A question of power: the electrification of rural households. Energy and Development Research Centre, University of Cape Town.
- Crush J (ed) 1996. *Power of development*. Routledge, London.
- Daly M 1978. *Gyn/Ecology*. Women's Press. London.
- Datta A & Mohapeloa L 1993. Proceedings of the seventh workshop and policy makers seminar. University of Botswana, Gaborone.
- Davis K, Leijenaar M & Oldersma J (eds) 1991. *The gender of power*. Sage, London.
- Davis M & Wamukonya N 1999. Socio-economic impacts of rural electrification in Namibia; Report 1: comparisons between grid, solar and unelectrified households. Energy and Development Research Centre, University of Cape Town.
- Davis M & Ward S 1995. Household energy-use patterns in rural areas: the effects of access to electricity. Energy and Development Research Centre, University of Cape Town.
- Davis M 1995. Institutional frameworks for electricity supply to rural communities: a literature review. Energy and Development Research Centre, University of Cape Town.
- Davis M 1996. The financial impacts of rural electrification. Energy and Development Research Centre, University of Cape Town.
- Davis M 1997. A financial and economic analysis of two electrification projects. Energy and Development Research Centre, University of Cape Town.

- DAWN (Development Alternatives with Women for a New Era) 1985. *Development, crisis and alternative visions: Third World women's perspectives*. DAWN, Delhi.
- De Beauvoir S 1952. *The second sex* (translated by HM Parshely). Bantam, New York.
- De la Rey C 1997. South African feminism, race and racism, in *Agenda* 32 pp6-10.
- De Lauretis T 1987. *Feminist studies, critical studies*. Indiana University Press, Bloomington.
- De Vries P 1992. A research journey: on actors, concepts and the text, in Long N and Long A (eds) *Battlefields of knowledge: The interlocking of theory and practice in social research and development*. Routledge, London pp47-84.
- Delphy C 1984. *Close to home: a materialist analysis of women's oppression*. University of Massachusetts Press, Amhurst.
- Delsing R 1991. Sovereign and disciplinary power: a Foucaultian analysis of the Chilean women's movement, in Davis K, Leijenaar M & Oldersma (eds) *The gender of power*. Sage, London pp129-149.
- Democracy, human rights and gender equality consultative meeting report. South African Human Rights Commission 1-2 December 1997.
- Denton F 2000. Gendered impacts of climate change: a human security dimension, in *Energia News* Vol 3 Issue 3, pp13-14.
- Denton F 2001. Climate change, gender and poverty. Academic babble or realpolitik? in *Bulletin Africa, Climate Change: African Points of View* No 14 special Marrakesh Issue.
- Department of Mineral and Energy Affairs 1983. Annual Report and Energy Policy. Department of Mineral and Energy Affairs, Pretoria.
- Department of Mineral and Energy Affairs 1984. Annual Report and Energy Policy. Department of Mineral and Energy Affairs, Pretoria.
- Department of Mineral and Energy Affairs 1995. South African Energy Policy Discussion Document (Green Paper). Department of Mineral and Energy Affairs, Pretoria



- Department of Minerals and Energy 1996. Draft White Paper on the Energy Policy of the Republic of South Africa. Department of Minerals and Energy, Pretoria
- Department of Minerals and Energy 1998. White Paper on the Energy Policy of the Republic of South Africa. Department of Minerals and Energy, Pretoria.
- Department of Minerals and Energy (DME) statistics 1994-2000, supplied by Gert van den Berg, Department of Minerals and Energy, Pretoria.
- Diab R 1988. The wind energy resource in South Africa, Eberhard A & Williams A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town pp157-182.
- Dingley C 1999. Another white elephant? in *Electricity Supply Industry ESI Africa* Issue 2 pp4.
- DGIS (Directorate General for International Co-operation) 1990. Women, energy, forestry and environment. Policy on an operational footing: main points and checklist. Sector Paper Women and Development, No 4. Directorate General for International Co-operation, The Netherlands.
- Dolny H 2001. *Banking on change*. Viking, London.
- Douthwaite R 1999. Is it possible to build a sustainable world? in Munck R & O'Hearn D (eds) *Critical development theory: contributions to a new paradigm*. Zed Books, London.
- Dove F 1989. Interview with Costau gender trainers, in *Agenda* No 6.
- Du Bois B 1980. Passionate scholarship: notes on values, knowing and method in feminist social science, in Bowles G & Duelli-Klein R(eds) *Theories of women's studies*. Women's Studies, University of California, Berkeley.
- Du Plessis J 1995. Chairman's report in *Lighting up South Africa*. National Electricity Regulator's Progress Report on Electrification, Johannesburg.
- Dunkerley J, Ramsay W, Cecelski E & Mbi E 1978. Household energy use and supply by the urban and rural poor in developing countries. Report for the World Bank, Washington DC.

- Dunnett S 2001. Entrepreneurs by choice? –or by necessity? in *Boiling Point* No 47 pp1-3.
- Dutkiewicz RK 1995. *Energy in South Africa: a policy discussion document*. Report No Int 192, Energy Research Institute, University of Cape Town.
- Eberhard A & Gandar M 1984. Energy, poverty and development in South Africa. Second Carnegie inquiry into poverty and development in Southern Africa. SALDRU working paper 154. University of Cape Town.
- Eberhard A & Theron P (eds) 1992. *International experience in policy research and planning*. Elan, Cape Town.
- Eberhard A & van Horen C 1995. *Poverty and power: energy and the South African state*. Pluto, London.
- Eberhard A & Williams A (eds) 1988. *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town.
- Eberhard A 1984. Energy and poverty in urban and peri-urban areas around Cape Town. Second Carnegie inquiry into poverty and development in Southern Africa. Conference paper No 155. University of Cape Town.
- Eberhard A 1996. Transforming the energy sector to contribute to growth and development in South Africa, paper presented at the Third International Conference of the Third World Science, Technology and Development Forum, Durban.
- ECI (Empowerment and Creative Integration) 2000. Gender integration at programmatic level. Reference material # 3: *Changing views on development, gender and energy*. Pakistan Environment Programme.
- Eckholm E 1975. *The other energy crisis: fuelwood*. Worldwatch Paper No 1, Worldwatch Institute, Washington DC.
- Eckholm E 1978. Firewood: the poor man's burden in *International Wildlife*, May-June.

- EDG (Energy and Development Group) 1995. Funding proposal for the public consultation process for marginalised groups, submitted to the DME, Pretoria.
- EDRC (Energy and Development Research Centre) 1992. *Report 1989-1992: the first three years*. Energy for Development Research Centre, University of Cape Town.
- EDRC (Energy and Development Research Centre) 1994. *Annual report*. Energy and Development Research Centre, University of Cape Town.
- EDRC (Energy and Development Research Centre) 1998. Rural electrification in South Africa: Summarised research from the project *The role of electricity in the integrated provision of energy to rural areas*. Energy and Development Research Centre, University of Cape Town.
- Elson D 1988. Dominance and dependency in the world economy, in Crow B, Thorpe M (eds) *Survival and change in the Third World*. Polity Press, Open University, Cambridge pp 264-87.
- Elson D 1991. Male bias in the development process: an overview, in Elson D (ed) *Male bias in the development process*. Manchester University Press, Manchester.
- Elson D 1998. Talking to the boys, in Jackson C and Pearson R (eds) *Feminist visions of development: gender analysis and policy*. Routledge, London.
- Energia News* 2001. Vol 4 Issue 1, devoted to CSD-9 and WSSD preparations.
- Energia Support Group & CSD NGO Women's Caucus. 2001. Gender perspectives on energy for CSD-9. Position paper prepared for the CSD-9 meeting held in New York in April.
- Escobar A 1996. Imagining a post-development era, in Crush (ed). *Power of development*. Routledge, London.
- Escom Annual Report 1975. Johannesburg.
- Eskom News* 2002 June <http://intranet.eskom.co.za/eskom.news./main.html>
- Eskom: Statistical Yearbook 1995. Eskom Megawatt Park, Johannesburg.
- ESMAP (Energy Sector Management Assistance Programme) 1990. Women and energy. The international network: Policies and experiences. World

Bank/UNDP/Bilateral Aid Energy Sector Management Assistance Program.  
Washington DC.

ESMAP (Energy Sector Management Assistance Programme) 2000. Proceedings of the  
US – Africa Energy Initiative including the Women in Energy Ministers'  
Conference, Durban 11-12 December.

ETC (Energy and Technology Centre) (UK) 1989. *Formulating African energy policy :  
a discussion document.*

Evans M 1986. *Change in domestic fuel consumption in central Mexico and its relation  
to employment and nutrition.* International Labour Organisation, World  
Employment Programme, Geneva.

Everts S & Schulte B 1997. Vietnam women's union promotes solar energy, in *Energia  
News* Vol 1 Issue 3 pp12-13.

Ezzati M 2001. Women have exposure levels two to four times those of men in rural  
Kenya, in *Energia News* Vol 4 Issue 4 pp11.

Fairhurst J 1997. Women's role in forestry development in South Africa: emerging  
national policy directions, in Wickramasinghe A (ed) *Development Issues across  
Regions: Women, Land and Forestry.* CORRENSA, Sri Lanka.

FAO 1991. *'Fruits of our work': women in community forestry,* FAO, Tanzania.

Farouk A 1980. Time use of rural women: a six village survey in Bangladesh. Report  
prepared for the Bureau of Economic Research, Dacca University.

Feenstra M 2001. *Annotated bibliography on international women, gender and energy  
literature.* Energia, Enschede, The Netherlands.

Feenstra M (forthcoming). Engendering the energy policy of Uganda. Masters thesis.  
University of Twente, Enschede.

Fester G 1992. The women's alliance, in *Agenda* 13 pp29-34.

Fester G 1997. Women's organisations in the Western Cape: vehicles for gender  
struggle or instruments of subordination? in *Agenda* No 34 pp45-61.

- Fine B & Rustonjee Z 1996. *The political economy of South Africa: from Minerals-Energy Complex to industrialisation*. Witwatersrand University Press, Johannesburg.
- Firestone S 1979. *The dialectic of sex*. The Women's Press, London.
- Foley G 1988. Discussion paper on demand management for the World Bank and South Africa Regional Seminar on Household Energy Planning, in Harare, 1-5 February.
- Foley G 1990. *Electricity for rural people*. Panos, London.
- Foucault M 1980. *Power/knowledge: selected interviews and other writings 1972-1977*. Harvester Press, Brighton.
- Freely J 1980. Did iron-age man have a role in the history of Zululand's wilderness landscapes? in *South African Journal of Science* Vol 76.
- Freire P 1990 (first published in 1972). *Pedagogy of the oppressed*. Sheed and Ward, London.
- French D 1978. *Firewood in Africa*. USAID Africa Bureau Firewood Workshop, Washington DC, 12-14 June.
- French D 1978a. Economic and social analysis of renewable energy projects: the state of the art, paper presented at the USAID Africa Bureau Firewood Workshop, Washington DC, 12-14 June.
- Friedan B. 1973. *The feminine mystique*. WW Norton, New York.
- Friedman M 1999. Effecting equality: translating commitment into policy and practice, in *Agenda* monograph *Empowering women for gender equity*, pp2-17.
- Funani L 1992. Nigerian conference revisited, in *Agenda* No 15 pp63-68.
- Funani L 1993. The great divide, in *Agenda* No 17 pp55-57.

- Gaidzanwa R 1992. Bourgeois theories of gender and feminism and their shortcomings with reference to Southern African countries, in Meena R (ed) *Gender in Southern Africa: Conceptual and theoretical issues*. SAPES, Harare pp92-125.
- Gaitskell D, Kimble J, Maconachie M & Unterhalter E 1984. Class, race and gender: domestic workers in South Africa in *ROAPE* 27/28.
- Gandar M 1984. The poor man's energy crisis: domestic energy in KwaZulu. Second Carnegie Inquiry into poverty and development in Southern Africa. SALDRU working paper 156, University of Cape Town.
- Gander M 1985. Development: what has gone wrong? in *Frontline* April pp34-35.
- Gandar M 1988. The history and experience of woodlot development for fuelwood production in Southern Africa, in Eberhard A & Williams A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town pp247-260.
- Gandar M 1991. Domestic energy use by farmworkers living on commercial farmland in Natal and the Transvaal. Report to the Department of Minerals and Energy Affairs, Pretoria.
- Gandar M 1994. Status report on biomass resources, fuelwood demand and supply strategies in South Africa. Report to the Department of Mineral and Energy Affairs, Pretoria.
- Giddens A 1991. *Modernity and self-identity*. Stanford University Press, Stanford.
- Gitobu J 2000. Professional and leadership training, paper presented at the Women in Africa, African Energy Ministers' Conference, Durban, 11-13 December.
- Glaichen S & Richter E 2001. Higher prevalence of asthma and chronic bronchitis among women than men in KwaZulu-Natal, South Africa, in *Energia News* Vol 4 Issue 4 pp11.
- Gluck S & Patai D 1991. *Women's words. The feminist practice of oral history*. Routledge, New York.

- Goldemberg J, Johansson TB, Reddy A, & Williams R 1987. *Energy for development*. World Resources Institute, Washington DC.
- Goldemberg J, Johansson TB, Reddy A, & Williams R 1987a. *Energy for a sustainable world*. World Resources Institute, Washington DC.
- Goldemberg J, Johansson T, Reddy A & Williams R 1994. Energy efficiency from the perspective of developing countries, in *Energy for Sustainable Development* Vol 1 No 2 pp28-34.
- Golding T & Heron G 1990. Issues in the electrification process: the socio-economic impact of electrification on a peri-urban community in Bophutatswana. Report to the National Energy Council, Pretoria.
- Gordon A 1997. Facilitating education in rural areas of South Africa: the role of electricity and other sources of energy. Energy and Development Research Centre, University of Cape Town.
- Gordon J 1984. Biomass energy devices for income generation at the household and community level. ITDG report, Rugby.
- Govender P 1993. Breaking the silence: Women's National Coalition, in *Agenda* No 16 pp42-43.
- Govender P 1997. Foreword to the second women's budget, in Budlender D (ed) *The second women's budget*. Idasa, Cape Town. pp5-12.
- Govind K 1995. Gender analysis tools. Module prepared for the Regional Wood Energy Development Programme in Asia, 28-30 June. RWEDP Report No 22.
- Gqola P 2001. Unfanele uqavile: Blackwomen, feminisms and postcoloniality in Africa, *Agenda* No 50 pp11-22.
- Gqulu K 2001. Minister kick-starts piloting of 50kWh/month to the poor, in *Electricity Regulatory Journal*, August pp6.
- Graham S (compiler) 1994. *Energy research in developing countries*. International Development Research Centre (IDRC), Ottawa.



- Gramsci A 1977. *Selections from political writings 1910-1920*. Lawrence and Wishart, London.
- Greeley M & Jenkins R 2000. Mainstreaming the poverty-reduction agenda: an analysis of institutional mechanisms to support pro-poor policy making and implementation in six African countries. Institute of Development Studies, Brighton.
- Green M & Erskine S 1998. An energy audit of Maphephethe: assessing present energy usage patterns as a precursor to the introduction and expansion of alternative energy resources. University of Natal, Pietermaritzburg.
- Green M & Wilson M 2000. The empowerment of women through the introduction of solar ovens in Maphephethe, KwaZulu-Natal, paper presented at the Second World Solar Cooking Conference, Kimberley, 26-29 November.
- Green M 2002. Solar cookers: a potential mechanism for challenging gender stereotypes, in *Agenda* No 52 pp62-67.
- Gregory S 1999. Gender roles and food in families, in McKie L, Bowlby S & Gregory S (eds) *Gender, power and the household*. Macmillan, London pp60-75.
- Griffin NJ, Banks D, Mavrandonis J, Shackleton SE & Schackleton CM 1992. Household energy and wood use in a peripheral rural area of the eastern Transvaal lowveld. Report to the Department of Minerals and Energy, Pretoria.
- GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) 1997. Report on the project progress review for the project PN 95.2262.4. Solar cooker field-test South Africa.
- Guyer J & Peters P 1987. Introduction to special edition of *Development and Change* Vol 27 No 2 pp197-214.
- Guyer J 1981. Household and community in African studies, in *African Studies Review* Vol 24 No2/3 pp87-137.
- Hadjor KB 1993. *Dictionary of third world terms*. Penguin Books, London.

- Haile F 1991. Women fuelwood carriers in Addis Ababa and the peri-urban forest. Report to the International Development Research Centre (IDRC) and National Urban Planning Institute (NUPI), ILO, Geneva.
- Hall M & Maggs T 1979. Nqabeni, a later iron age site in Zululand, in *South African Archeological Society*, Goodwin Series No 3.
- Hall S (ed) 1997. *Representations: cultural representation and signifying practices*. Milton Keynes/Open University, London.
- Hamilton K 2001. Transport in the north. Background paper for the expert workshop on Gender perspectives for Earth Summit 2002: Energy, transport, information, for decision-making, held in Berlin 10-12 January.
- Hannson D 1992. Bridging the divides, in *Agenda* No13 pp35-41.
- Hansmann C, Van Gass M, Annecke W, Despins PM & Kargas S 1996. Post-electrification study of Loskop - Appendices. Energy and Development Research Centre, University of Cape Town.
- Harding S 1991. *Whose science, whose knowledge?* Open University Press, Buckingham.
- Harding S 1995. Women's history of the world, in Crush J (ed) *Power of development*. Routledge, London.
- Harrison E 2000. Men, women and work, in *The European Journal of Development Research* Vol 12 No 2 pp53-71.
- Hassim S & Walker C 1992. Women's studies and the women's movement in South Africa, in *Transformation* No18/19 pp78-85.
- Hassim S 1991. Gender, social location and feminist politics, in *Transformation* No15 pp65-82.
- Hassim S 1991a. Putting women on the agenda: some issues and debates, in *Agenda* No 9 pp10-13.
- Hemmati M 2000. Gender-specific patterns of poverty and (over-) consumption in developing and developed countries, in Jochem E, Sathaye J & Bouille D (eds)

- Society, behaviour and climate mitigation*. Kluwer Academic, Dordrecht pp169-189.
- Hemmati M 2001. Energy at CSD-9 and the role of the Women's Caucus, in *Energia News* Vol 4 Issue 1 pp9-10.
- Hemming G 1982. Solar technology and women's work, paper for the meeting Evaluation of Energy Resources and Needs in the Third World, Dakar, Senegal 29 March – 2 April.
- Heron G & Golding T 1991. Issues in the electrification process: the socio-economic impact of electrification on a peri-urban community in Bophuthatswana. Report to the National Energy Council, Pretoria.
- Heron G & Golding T 1991. Report 2: Issues in the electrification process: domestic change, user experience and understanding. Report to the National Energy Council, Pretoria.
- Hirst J 1996. WENGOSA: Women, energy and non-governmental organisations in South Africa. Unpublished paper prepared at the Energy and Development Research Centre, for Professor Irene Tinker, Berkeley University.
- Hofmeyer J & Muller J (eds) 1988. *Proceedings of the Research Utilization Seminar*. Centre for Continuing Education. University of the Witwatersrand, Johannesburg.
- Hofmeyr I-M 1994. Energy consumption patterns and supply options for farmworker households. EPRET paper No 8. Energy and Development Research Centre, University of Cape Town.
- Hofmeyr I-M 1996. A comparative study of the access to and use of electricity by farmworker households in the Free State. Energy and Development Research Centre, University of Cape Town.
- Holland J with Blackburn B (eds) 1998. *Whose voice? Participatory research and policy change*. Intermediate Technology Publications, London.
- hooks b 1982. *Ain't I a woman? Black women and feminism*. Pluto, London.
- hooks b 1984. *Feminist theory from margin to center*. South End Press, Boston.

- Hooper-Box C, Mabuse K & Ruiters W 1998. A conceptual review and reassessment of South African energy policy research methodology: towards an expanded framework for gender and energy research. Report for the Department of Minerals and Energy No. EO9610, Pretoria.
- Hope A & Timmel S 1984. *Training for transformation: a handbook for community workers*. Books 1,2,3 Mambo, Zimbabwe.
- Hosier R 1994. Informal sector energy use in Tanzania: efficiency and employment potential, in *Energy, Environment and Development Series* No25, Stockholm Environmental Institute (SEI) ISBN 88116859.
- Hoskins M 1979. *Women in forestry for local community development: a programming guide*. USAID, Washington DC.
- Hoskins M 1982. Social forestry in West Africa: myths and realities, paper presented at the annual meeting of the American Association for the Advancement of Science, Washington DC, 8 January.
- Howell S & Melhuus M 1993. The study of kinship; the study of person; a study of gender? in Del Valle T (ed) *Gendered Anthropology*. Routledge, London.
- Hulscher W 2000. RWEDP and gender development, paper presented at the workshop on Gender Issues in Wood Energy, Pathumthani, Thailand 21-22 November.
- IEA (International Energy Agency) 1995. *Energy policies of South Africa – 1996 survey*. OECD/ International Energy Agency, Paris.
- Illich I 1992. Needs, in Sachs W (ed) *The development dictionary: a guide to knowledge as power*. Zed Books, London.
- IRIN 2001. Solar power lights up lives in the Eastern Cape, in *Energy Management News* Vol 7 No 3 pp9-11.
- ITDG (Intermediate Technology Group) 2001. West Kenya smoke and health project 1998-2001. ITDG, UK and Nairobi.
- Jackson C & Pearson R (eds) 1998. *Feminist visions of development: gender analysis and policy*. Routledge, London.

- Jackson C (guest ed) 2000. Men at work: labour, masculinities, development. Theme issue of *The European Journal of Development Research* Vol 12 No 2.
- Jackson C 2000. Men at work: Labour, masculinities, development, in *The European Journal of Development Research* Vol 12 No 2 pp1-22.
- Jahan R 1995. *The elusive agenda: mainstreaming women in development*. Zed Books, London.
- James B 1991. The Mabibi community: a socio-economic study. Report for the National Energy Council, Pretoria.
- James B 1993. Mabibi energy consumption patterns. Report for the Department of Minerals and Energy Affairs, Pretoria.
- James B 1995. The impact of rural electrification: exploring the silences. Energy and Development Research Centre, University of Cape Town.
- James B 1995. Gender, development and environment in the rural village of Mabibi, KwaZulu-Natal. Unpublished masters thesis. University of Natal, Durban.
- James B 1996. An assessment of the pre-electrification process in the Tambo village pilot project. Energy and Development Research Centre, University of Cape Town.
- James B 1997. Current-limited supplies of electricity in the context of South African rural areas. Energy and Development Research Centre, University of Cape Town.
- James B 1998. Are equity and empowerment possible in a rural electrification programme? Energy and Development Research Centre, University of Cape Town.
- James B 1998a. Community participation in rural electrification: building human capacity through the delivery of electricity to rural areas. Energy and Development Research Centre, University of Cape Town.
- James B 1999. At the margins of power: gender and policy formulation in the energy sector, in *Agenda monograph: Translating commitment into policy: 3 case studies*, pp18-47.

- James B & Ntutela P 1997. Rural households' response to the 2.5A electricity supply option in the Tambo village pilot project. Energy and Development Research Centre, University of Cape Town.
- James B & Simmonds G 1997. Energy, in Budlender D (ed) *The second women's budget*. Idasa, Cape Town pp200-248.
- Jaquette J & Staudt K 1988. Politics, population and gender: a feminist analysis of US population policy in the third world, in Jones K & Jonadottir A (eds) *The political interests of gender. Developing theory and research with a feminist face*. Sage, London pp214-33.
- Jawitch J 1978. Natal 1959 – The workers protests, paper presented at the Conference on the History of Opposition in Southern Africa, University of the Witwatersrand.
- Jawitz J & Case J 1998. Exploring the reasons South African students give for studying engineering, in *International Journal for Engineering Education* Vol 14 No 4 pp235-240.
- Jawitz J, Case J & Tshabalala M 2000. Why NOT engineering? The process of career choice amongst South African female students, in *International Journal for Engineering Education* Vol 16 No 6 pp470-475.
- Johnson E & Ferdorsky C 2000. Opportunities for women in business, paper presented at the Women in Energy Ministers' Conference, Durban, 11-12 December.
- Jones S & Aitken R 1996. Current life strategies and the prospect of electrification: a comparison of households in two areas of Cato Manor, Durban, in *Journal of Energy in Southern Africa* Vol 7 No 4 pp106-112.
- Kaale B 1999. Women's involvement in the energy sector in Tanzania, in *Journal of Energy in Southern Africa* Vol 10 No 1 pp8-12.
- Kabeer N & Joeke S 1991. Researching the household: methodological and empirical issues. *IDS Bulletin* Vol 22 No 1.

- Kabeer N 1991. Rethinking development from a gender perspective: some insights from the decade, paper presented at the Conference on Women and Gender in Southern Africa, University of Natal, Durban.
- Kabeer N 1994. *Reversed realities: gender hierarchies in development thought*. Verso, London.
- Kammen D 1995. Cooking stoves for the developing world, in *Scientific American* Vol 273 No1 pp64-67.
- Kandiyoti D 1988. Bargaining with patriarchy, in *Gender and society* Vol 2 No 3 pp274-290.
- Kandiyoti D 1998a. Gender, power and contestation: rethinking bargaining with patriarchy, in Jackson C and Pearson R (eds) *Feminist visions of development: gender analysis and policy*. Routledge, London pp135-152.
- Karlsson G & McDade S (eds) 2001. Sustainable energy and women: introduction, in *Generating opportunities: case studies on energy and women*. UNDP, New York pp6-15.
- Kathree F 1995. Where have all the women gone? in *Agenda* No 24 pp21-26.
- Keohane N, Rosaldo M & Gelpi B 1982. *Feminist theory: a critique of ideology*. Harvester Press, Sussex.
- Khamati B 1987. *Improving cookstoves*. KENGO (Kenya Energy and Environmental Organisation) Wood Energy Training Series, Nairobi.
- Khan H 2001. Battery-operated lamps produced by rural women – Bangladesh, in *Energia News* Vol 4 Issue 3 pp12-13.
- Kleiber N & Light L 1978. *Caring for ourselves*. University of British Columbia, Columbia.
- Klingshirn A 2000. Integrating Household Energy into Rural Development Programmes. Available online at [www.energia.org](http://www.energia.org)



- Kloot B 1999. The energization of KwaBhaza: a case study in rural energy and development. Unpublished masters thesis. Energy and Development Research Centre, University of Cape Town.
- Koerhuis A 1998. Women involvement in the energy sector in Tanzania; a Tanzania National Consultation Workshop on Women and Sustainable Energy, in *Renewable Energy & Environmental News* Issue 2 December pp10-11.
- Komter A 1991. Gender, power and feminist theory, in Davis K Leijenaar M & Oldersma (eds) *The gender of power*. Sage, London.
- Krafchik W & Streak J 2001. The poor get poorer, in the *Mail & Guardian* February 23-1 March.
- Kristeva J 1980. *Desire in language*. Columbia University Press, New York.
- Kuzwayo E 1985. *Call me woman*. Raven Press, Johannesburg.
- Langa R 2001. Domestic electricity tariffs, in *National Electricity Regulatory Journal* May/June pp4-5.
- Larrain J 1989. *Theories of development: capitalism, colonialism and dependency*. Cambridge Press, London.
- Latouche S 1991. *In the wake of the affluent society: an exploration of post-development*. Zed Books, London.
- Leach G & Gowen M 1987. *Household energy handbook: an interim guide and reference manual*. World Bank, Washington DC.
- Lele D 1998. Gender equity in international petroleum projects: women in the oil and gas sector, in *Energia News* Volume 3 Issue 3 pp10-11.
- Lessing, M (ed) 1994. *South African women today*. Maskew Miller Longman, Cape Town.
- Letlaka-Rennert K 1991. Impressions: conference on 'women and gender in Southern Africa', in *Agenda* No 9 pp22-23.

- Lewis J 2000. The US Department of Energy's commitment to advancing the status of women in energy and science, paper presented at the Women in Africa African Energy Ministers' Conference, Durban, 11-13 December.
- Leys C 1996. *The rise and fall of development theory*. James Currey, London.
- Lloyd P, Rukato H & Swanepoel R 1999. Liquid fuels production. Paper No 12 for WWF Macroeconomic reforms and sustainable development in Southern Africa. Report prepared for the Development Bank of Southern Africa.
- Long N 1992. Preface, in Long N & Long A (eds) *Battlefields of knowledge: the interlocking of theory and practice in social research and development*. Routledge, London.
- Long N and Long A (eds) 1992. *Battlefields of knowledge: the interlocking of theory and practice in social research and development*. Routledge, London.
- Lue-Mbizo C 1991. The role of women in small-scale bread, brick and beer industries in rural Zimbabwe. Report for ZERO Regional Network of Environmental Experts.
- Lund F 1991. Impressions: conference on 'women and gender in Southern Africa', in *Agenda* No 9 pp22-23.
- Lund Skar S 1982. Fuel availability, nutrition and women's work in Highland Peru: three case studies from contrasting Andean communities. World Employment Programme Research, Working Papers WEP 10/ WP 23, ILO, Geneva.
- Lyons M, Smuts C & Stephens A 2000. Integrating participation: participatory developments in post-apartheid South Africa. South Bank University, London.
- Mabandla B 2002. Opening address at the Forum on Science, Technology and Innovation for Sustainable Development at TWOWS (Third World Organisation for Women in Science) Forum at Ubuntu Village, World Summit on Sustainable Development (WSSD), 26 August.
- Macdonald M, Sprenger E & Dubel I 1997. Gender and organizational change: bridging the gap between theory and practice. Royal Tropical Institute, The Netherlands.
- Madonsela T 1995. Beyond putting women on the agenda, in *Agenda* No 24 pp27-38.

- Maganya E & Houghton R (eds) 1996. *Transformation in South Africa: policy debates in the 1990s*. Institute for African Alternatives (IFAA), Johannesburg.
- Makan A 1993. Internal EPRET evaluation report. Energy and Development Research Centre, University of Cape Town.
- Makan A 1994. A gendered perspective of the development context for energy planning in South Africa. EPRET paper No3. Energy and Development Research Centre, University of Cape Town.
- Makan A 1995. A women's perspective of the energy budget, paper presented to the Parliamentary Portfolio Committee, Cape Town, April.
- Makhabane T (forthcoming). Institutionalization of (and players in ) gender and energy issues in Africa, in *Oxfam Journal for Gender and Development*, special issue on Climate Change for the World Summit on Sustainable Development.
- Makhabane T 2002. Gender and sustainable energy issues in Africa: perspectives for the World Summit on Sustainable Development (WSSD). Report to Energia, Enschede.
- Makhubu L 2002. Women's perceptions of science and technology for sustainable development, paper presented at TWOWS (Third World Organisation for Women in Science) Forum on Science, Technology and Innovation for Sustainable Development at Ubuntu Village, World Summit on Sustainable Development (WSSD), 26 August.
- Malik K 1996. *The meaning of race: race, history and culture in western society*. Macmillan, London.
- Malinowski B 1967. *A diary in the strict sense of the term*. Routledge and Kegan Paul, London.
- Mama A 2001. Talking about feminism in Africa, in *Agenda* No 50 pp58-63.
- Mama A 2002. Unchanging states: gender and political transition. Lecture given in the Summer School Series, University of Cape Town.

- Mandhlazi W 1999. A reflection on the impact of renewable energy projects on gender, in *SAREIN News Flash* The Southern Africa Renewable Energy Information Network, June pp13-14.
- Mandhlazi W 2001. A reflection on the impact of renewable energy projects on gender, in *SESSA Friend* Vol 4 No 13 December –January pp5.
- Manicom D 1991. National Women's League conference: women act now for equality, unity and development! in *Agenda* No 10 pp7-9.
- Manicom L 2001. Globalising 'gender' in-or as- governance? Questioning the terms of local translations, in *Agenda* No 48 pp6-21.
- Mannathoko C 1992. Feminist theories and the study of gender issues in Southern Africa, in Meena R (ed) *Gender in Southern Africa: conceptual and theoretical issues*. SAPES, Harare pp71-91.
- Manzini M 1995. Woman with vision: profile of Sankie Mthembi-Mkondo, in *Agenda* No 24 pp39.
- Manzo K 1996. Black consciousness and the quest for a counter-modernist development in Crush J (ed) *Power of development*. Routledge, London.
- Marquard A 1999. Making a difference: reflections on the first ten years of the Energy and Development Research Centre at the University of Cape Town. EDRC occasional paper, Energy and Development Research Centre, University of Cape Town.
- Marais H 1998. *South Africa limits to change: the political economy of transition*. Zed Books, London.
- Marchand M & Parpart J (eds) 1995. *Feminism / postmodernism / development*. Routledge, London.
- Maré G & Fisher F 1974. *The Durban strikes*. IEE, Durban pp6-45.
- Maré G 2000. Race thinking and thinking about race in South Africa. Unpublished seminar paper.

- Marks S & Atmore A (eds) 1980. *Economy and society in pre-industrial South Africa*. Longman, London.
- Mathee A & de Wet T 2001. Rural electrification in South Africa: implications for the health and quality of life of women, in *Energia News* Vol 4 Issue 4 pp10.
- Mbilinyi M 1992. Research methodologies in gender issues, in Meena R (ed) *Gender in Southern Africa: conceptual and theoretical issues*. SAPES, Harare pp31-70.
- McCall M 2001. Brewing beer should be a hotter issue, in *Boiling Point* No 47 pp23-26.
- McDade S & Bonini A 2001. International programmes: focus on engendering UNDP energy policy, in *Energia News* Vol 4 Issue 4 pp 8-10.
- McFadden P 2000. *The state of feminism in Africa today*. The Southern African Institute for Policy Studies, Zimbabwe.
- McGregor G 1993. Household hydrocarbon fuels. EPRET paper No 14B, Energy and Development Research Centre, University of Cape Town.
- McKie L, Bowlby S & Gregory S (eds) 1997. *Gender, power and the household*. Macmillan, London.
- McMenamin V 1992. Shifts in ANC economic policy, in Howe G & le Roux P (eds) *Transforming the economy. Policy options for South Africa*. Indicator South Africa, Durban pp245-254.
- McNay L 1992. *Foucault and feminism: power, gender and the self*. Polity Press, Cambridge.
- Medical Research Council, Community Health Group (no date). Electrification and health: a South African Perspective 5p.
- Meena R 1992. Gender research/studies in Southern Africa, in Meena R (ed) *Gender in Southern Africa: conceptual and theoretical issues*. SAPES, Harare pp1-30.
- Meer S 1997. Feminist agendas in activism and academia – the challenge for Agenda, in *Agenda* No 34 pp5-16.

- Mehlwana A 1999. The economics of energy for the poor: fuel and appliance purchase in low-income urban households. Energy and Development Research Centre, University of Cape Town.
- Mehlwana AM 1999a. The anatomy of a disaster: case studies of fuel-use problems in the shack areas of Greater Cape Town, in *Urban Health and Development Bulletin* No 2 pp 29-37.
- Mehlwana AM & Qase N 1995. The social determinants of energy use in low-income urban households. Energy and Development Research Centre, University of Cape Town.
- Mehlwana M & Qase N 1995. The contours of domesticity, energy consumption and poverty: the social determinants of energy use in low-income urban households. Energy and Development Research Centre, University of Cape Town.
- Mehlwana AM & Qase N 1996. Energy constraints in low-income households in the Western Cape, in *Journal of Energy in Southern Africa* Vol 7 No 4 pp127-132.
- Mehlwana AM & Qase N 1996a. Social determinants of energy use in low income urban households in the Western Cape. Report for the Department of Minerals and Energy, Report No. E09420, Pretoria
- Meintjies H, Aitken R, White C & Jones S 1996. Paraffin etiquette: the different social meanings of paraffin in two informal settlements, in *Journal of Energy in Southern Africa* Vol7 No 4 pp 113-117.
- Meintjies S 1996. The women's struggle for equality during South Africa's transition to democracy, in *Transformation* No 30 pp47-64.
- Mensah S 2001. Energy for rural women's enterprises: Ghana, in *Generating Opportunities: Case Studies on Energy and Women*. UNDP, New York pp37-43.
- Mensah-Kutin R (forthcoming). Gendered experiences of access to electric power: the case of a rural electrification programme in Ghana. Ph.D thesis, Centre of West African Studies, University of Birmingham.
- MEPB (Minerals and Energy Policy Briefing) 2000. Newsletter, February.



- Meth C 2002. What to do until the doctor comes: relief for the unemployed and poorly employed workers, paper prepared for the Commission of Inquiry into Comprehensive Social Security in South Africa, unpublished draft.
- Meyer J 1991. Power and love: conflicting conceptual schema, in Davis K Leijenaar M & Oldersma (eds) *The gender of power*. Sage, London pp1-41.
- Mies M 1982. *The lace makers of Narsapur: Indian housewives produce for the world market*. Zed Books, London.
- Mies M 1989. *Patriarchy and accumulation on a world scale*. Zed Books, London.
- Mies M, Bennholdt-Thompson V & von Werlthof (eds) 1988. *Women. The last colony*. Zed Books, London.
- Miles R 1988. *The women's history of the world*. Penguin Books, London.
- Mishra V 2001. Indian National Health Survey shows greater effect of biomass fuels on acute respiratory infections in boys than girls, in *Energia News* Vol 4 Issue 4 pp11.
- Mlambo-Ngcuka P 2000. Keynote address at the African Energy Ministers Conference, Durban 11-13 December.
- Mlambo-Ngcuka P 2000. The Technology for Women In Business Awards. Speech on the occasion of the first presentation of the awards, Pretoria, 24 July.
- Mohanty C 1988. Under western eyes: feminist scholarship and colonial discourses, in *Feminist Review* No 30 pp61-68.
- Mohanty C 1991. Under western eyes: feminist scholarship and colonial discourses, in Mohanty C, Russo A & Torres L (eds) *Third World women and the politics of feminism*. Indiana University Press, Bloomington pp52-80.
- Mohanty C, Russo T & Torres L 1991. *Third world women and the politics of feminism*. Indiana University, Bloomington.
- Molefe L 2001. Government reached only half of gender equity target, in *Agenda* No 47 pp105.
- Moller V & Jackson A 1997. Perceptions of service delivery and happiness, in *Development Southern Africa* Vol 14 No 2.

- Molyneux M 1985. Mobilization without emancipation? Women's interests, state and revolution in Nicaragua, in *Feminist Studies* Vol XI No 2.
- Moore H 1988. *Feminism and anthropology*. Polity Press, Cambridge.
- Moore H 1994. *A passion for difference. Essays in anthropology and gender*. Polity, Cambridge.
- Morgenstern J 1997. Renewable energy for rural electrification in developing countries: the impact of appropriate energy technologies. Field Study Report.
- Morgenstern J 1998. Village Power Conference comments from Joy Morgenstern, email 12 November.
- Morrell R 1998. The new man? in *Agenda* No 37 pp7-12.
- Morrell R 2000. Men, gender wounds and healing, in *Agenda* No 46 pp100-4.
- Morton P 1972. Women's work is never done, in *Women Unite* Canadian Women's Educational Press, Toronto.
- Moser C 1993. *Gender planning and development: theory, practice and training*. Routledge, London.
- Muhlenbruch-Tegen A 1988. The solar resources of South Africa, in Eberhard A & Williams A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town pp 27-34.
- Munck R & O'Hearn D 1999. *Critical development theory: contributions to a new paradigm*. Zed Books, London.
- Nathan D 1997. Economic factors in the adoption of improved stoves, in *Energia News* Vol 1 Issue 2 pp8-10.
- National Energy Council 1983. *Annual Report*. National Energy Council, Pretoria.
- National Energy Council 1984. *Annual Report*. National Energy Council, Pretoria.
- National Energy Council 1985. *Annual Report*. National Energy Council, Pretoria.



- National Energy Council 1986/1987. *Annual Report*. National Energy Council, Pretoria.
- National Energy Council 1987/1988. *Annual Report*. National Energy Council, Pretoria.
- National Energy Council 1988/1989. *Annual Report*. National Energy Council, Pretoria.
- National Energy Council 1990/1991. *Annual Report*. National Energy Council, Pretoria.
- National Executive Committee of the African National Congress on the emancipation of women in South Africa, 2 May 1990, in *Agenda* No 8 pp19-23.
- Ndukwane G, Memela T, Phakati D & Qwabe T 1992. *No space to plant and other stories from the women of Canaan*. New Readers Project University of Natal, Durban.
- Nelson N & Wright S (eds) 1995. *Power and participatory development: theory and practice*. Intermediate Technology Publications, London.
- Nerfin M (ed) 1977. *Another development*. Dag Hammarskjöld Foundation, Uppsala.
- Nhlapo M 1985. *Work in Progress* No 32.
- Nkambule T 2000. Outcome of the consumer response survey conducted in Ivory Park, Midrand, paper presented at the Women in Africa African Energy Ministers' Conference, Durban, 11-13 December.
- Nohr K, Jorgensen A & Burris H 2000. Solar pasteurization against cholera in water and HIV in breast milk, paper presented at the Women in Africa African Energy Ministers' Conference, Durban, 11-13 December.
- Nyabeze W 2001. Networking around the world; a report on the workshop on women and energy, Durban, South Africa, in *Energia News* Vol 4 Issue 1 pp5-6.
- Nye D 1990. *Electrifying America: social meanings of a new technology, 1880-1940*. MIT, London.
- O'Donovan M 1988. Review of the use of microcomputer-based design tools for passive solar design of low-cost housing in South Africa, in Eberhard A & Williams

- A (eds) *Renewable energy resources and technology development in Southern Africa*. Elan, Cape Town pp125-134.
- Oakley A 1974. *The sociology of housework*. Martin Robertson, London.
- Oakley A 1981. Interviewing women: a contradiction in terms, in Roberts H (ed) *Doing feminist research*. Routledge and Kegan Paul, London pp30-59.
- OED précis 1996. *Bank lending for electric power in Africa: time for a reappraisal*. Number 102 <http://www.worldbank.org/num/oed/pr102.num>
- Ofosu-Amaah W & Philleo W (eds) 1991. *Proceedings of the global assembly of women and the environment: partners in life*. WorldWIDE Network, Washington DC.
- Okalebo J & Hankins M 1997. Why women adopt solar dryers, in *Energia News* Vol 1 Issue 3 pp6-7.
- Ong A 1988. Colonialism and modernity: feminist re-presentation of women in non-western societies, in *Inscriptions* Vol3/4 pp79-93.
- Oparaocha S 2000. ENERGIA: the international network on women and sustainable energy: gender and energy networking initiatives in Africa, paper presented at the Women in Energy African Energy Minister' Conference, Durban, 11-13 December.
- Oparaocha S (ed) 2001. News from the secretariat, in *Energia News* Vol 4 Issue 1 pp3-5.
- Overholt C, Anderson M, Cloud K & Austin J (eds) 1985. *Gender roles in development projects*. Kumarian Press, Connecticut.
- Owino M 2000. Salient and immediate benefits of solar cooking to refugee women, paper presented at the Second World Solar Cooking Conference, Kimberly, 26-29 November.
- Pandey M 1998. Health risk caused by domestic smoke, in *Boiling Point* No 40 pp6-8.
- Parikh J 1995. Gender issues in energy policy, in *Energy Policy* Vol 23 No 5 pp746-747.

- Parikh J 2000. Gender and health: considerations for petroleum product policy in India, in *Energia News* Vol 3 Issue 2 pp11-13.
- Parpart J & Marchand M 1995. Exploding the canon: An introduction / conclusion, in Marchand M & Parpart J (eds) *Feminism/postmodernism / development* Routledge, London.
- Parpart J 1996. Post-modernism, gender and development, in Crush J (ed) *Power of development*. Routledge, London.
- Patai D 1991. U.S. Academics and third world women: Is ethical research possible? in Gluck S & Patai D (eds) *Women's words: The feminist practice of oral history*. Routledge, London pp137-153.
- PDG (Palmer Development Group) 1997. Solar cooker field test. Final report. Palmer Development Group, Johannesburg.
- Pevelberg R & Miller A 1990. *Gender and power in families*. Routledge, London.
- Pietilä H & Vickers J 1994. Making women matter: the role of the United Nations. Zed Book, London.
- Pineda J 2000. Partners in women-headed households: emerging masculinities? in *The European Journal of Development Research* Vol 12 No 2 pp72-91.
- Prekel T 1994. South African women – meeting the challenge of the 1990s, in Lessing M (ed) *South African Women Today*. Maskew Miller Longman, Cape Town pp3-22.
- Presser H & Sen G (eds) 2000. *Women's empowerment and demographic processes. Moving beyond Cairo*. Oxford University Press, Oxford.
- Primo N 1997. Looking back, in *Agenda* No 32 pp56-62.
- Qase N 1999. Energy provision for the urban poor: South African case study. Energy and Development Research Centre, University of Cape Town.

- Qase N 2000. Too little too late: understanding rural communities reactions to solar home systems in South Africa. DUEE Pre-Conference Seminar, East African Power Industry Convention 2000, Kampala, 16-19 October.
- Qase N 2001. Energy policy, informal sector and urban livelihoods: a case study of meat traders in the Western Cape. Unpublished MPhil dissertation, University of Cape Town.
- Qunta C (ed) 1987. *Women in Southern Africa*. Skotaville Press.
- Rabinow P 1977. *Reflections on fieldwork in Morocco*. Quantum Books, London.
- Ramazanoglu C 1989. *Feminism and the contradictions of oppression*. Routledge, London.
- Ratele K 2001. Notes on the anxieties of belonging, in *Agenda* No 50 pp77-82.
- Rathgeber E 1990. WID, WAD, GAD: trends in research and practice, in *The Journal of Developing Areas* No 24 pp489-502.
- Reddy A 1980. *Rural energy consumption patterns: a field study*. ASTRA, Indian Institute of Science, Bangalore.
- Reddy A, Williams R & Johansson T 1997. *Energy after Rio: prospects and challenges*. United Nations, New York.
- Report of the Regional Workshop on Women and Sustainable Energy, Nairobi, Kenya, 13-15 March 2000. Available online at [www.energia.org](http://www.energia.org)
- Reynolds P 1984. Men without children. Second Carnegie Inquiry into poverty and development in Southern Africa. SALDRU working paper 5, University of Cape Town.
- Rich A 1979. *On lies, secrets and silence*. Virago, London.
- Roberts B 1976. *Kimberley: turbulent city*. David Philip, Cape Town.
- Roberts H (ed) 1981. *Doing feminist research*. Routledge and Kegan Paul, London.

- Robinson J 1993. White women researching /representing 'Others': from anti-apartheid to postcolonialism, paper presented at the Society for Geography Conference in Port Elizabeth, July.
- Rodda A (ed) 1991. *Women and the environment*. Zed Books, London.
- Roehr U 2001. Gender and energy in the north. Background paper prepared for the expert workshop on Gender perspectives for Earth Summit 2002: Energy, transport, information for decision-making, Berlin 10-12 January.
- Rogers B 1980. *The domestication of women: discrimination in developing societies*. Kogan, London.
- Rogerson C 1997. Rural electrification and the SMME economy in South Africa. Energy and Development Research Centre, University of Cape Town.
- Rosaldo M & Lamphere L (eds) 1974. *Women, culture and society*. Stanford University Press, Stanford.
- Rose G 1991. Citizenship, community and the locality: a feminist critique of the public sphere, paper presented to the annual meeting of the Association of American Geographers, Miami, April.
- Ross F 1993. Assessment of the impact of fuel-use on residents of an informal settlement. Report for the National Energy Council, Pretoria.
- Ross F 1993. *Houses without doors: diffusing domesticity in Die Bos*. MA thesis University of Cape Town, Cape Town.
- Ross F 1994. Transforming transition: exploring transition theories in the light of fuel use in a squatter settlement, in *Journal of Energy in Southern Africa* Vol 4 No 2 pp26-30.
- Ross F, Matzopoulos R & Phillips R 1997. The role of rural electrification in promoting health care in South Africa. Energy and Development Research Centre, University of Cape Town.

- Roxas S 1996. Principles for institutional reform, in Griesgraber JM & Gunter B (eds) *Development: new paradigms and principles for the twenty-first century*. Pluto Press, London.
- Ruffini A 1999. Where will Eskom's future generation capacity come from? in *African Energy* Vol 1 No 1 pp37-39.
- Ruiters W 1995. Affirmative action in the energy sector. EPRET paper No 21. Energy and Development Research Centre, University of Cape Town.
- Ruiters W 1996. *Report to the Norwegian Agency for Development Co-operation (Norad)* MEPC March.
- Rukato H 2001. Gender and energy in the south: A perspective from Southern Africa. Background paper prepared for the expert workshop on Gender perspectives for Earth Summit 2002: Energy, transport, information for decision-making, Berlin 10-12 January.
- Sachs W (ed) 1992. *The development dictionary – a guide to knowledge as power*. Zed Books, New York.
- Sachs W (ed) 2002. *The Jo-burg memo: fairness in a fragile world. Memorandum for the World Summit on Sustainable Development*. Heinrich Böll Foundation, Berlin.
- Said E 1979. *Orientalism*. Vintage, New York.
- Sanogo C & Skutsch M 2001. A tale of two women and their charcoal technology: a case from Mali, in *Energia News* Vol 4 Issue 2 pp9-10.
- Sardar Z 1999. Development and the locations of Eurocentrism, in Munck R & O'Hearn D (eds) *Critical development theory: contributions to a new paradigm*. Zed Books, London.
- Sarin M 1989. The 'Nada Chulha' stove programme in North India, in *Energy and Holistic Development*. Environmental Liaison Centre International, Manavodaya pp42-45.

- Sato T 1996. Notes on contributors in Griesgraber JM & Gunter B (eds) *Development: new paradigms and principles for the twenty-first century*. Pluto Press, London.
- Scott CV 1995. *Gender and development: rethinking modernization and dependency theory*. Lynne Rienner Publishers, Boulder.
- Seekings J 2000. *The UDF. A history of the United Democratic Front in South Africa 1983-1991*. David Philip, Cape Town.
- Seeling-Hochmuth G 1998. Hybrid system design. Energy and Development Research Centre, University of Cape Town.
- Segal L 1990. *Slow motion: changing masculinities, changing men*. Virago Press, London.
- SEI (Stockholm Environment Institute) 1999. *Energy interventions and poverty alleviation: strengthening the linkages*. SIDA, Stockholm.
- Seitz J 1988. *The politics of development*. Basil Blackwell, New York.
- Sen G & Batliwala S 2000. Empowering women for reproductive rights, in Presser H & Sen G (eds) *Women's empowerment and demographic processes. Moving beyond Cairo*. Oxford University Press, Oxford pp15-36.
- Sen G & Grown C 1988. *Development, crises and alternatives visions: third world women's perspectives*. Earthscan, London.
- Sengendo M 2002. Gender and energy: prospects and challenges in using participation and gender mainstreaming strategies in energy related programmes and policies, paper presented at the UNEP/ MEPC workshop on Gender and Energy with a special focus on renewable technologies, Johannesburg 18-20 June.
- Sengendo M 2001. Photovoltaic project for rural electrification in *Generating opportunities. – case studies on energy and women*. UNDP, New York pp86-91.
- Serote P 1992. Issues of race and power expressed during gender conferences in South Africa, in *Agenda* No 14.

- Shah P 1995. Farmer as analysts, facilitators and decision-makers in Nelson N & Wright S (eds) *Power and participatory development: theory and practice*. Intermediate Technology Publications, London.
- Shirima M 1994. Women and land ownership, in Besha R (ed) 1994 *African women: our burden and our struggles*. Institute for African Alternatives, Johannesburg pp29-33.
- Shope G 1985. *Work in Progress* No 32.
- Shrestha S 1996. Becoming a development category, in Crush J (ed) *Power of development*. Routledge, London pp266-277.
- SIDA (Swedish International Development Co-operation Agency) 1998. *Mainstreaming equity between women and men: handbook on gender perspectives in energy sector development*. SIDA Infrastructure Division, Stockholm.
- Silberschmidt M 2001. Disempowerment of men in rural and urban East Africa: implications for male identity and sexual behaviour, in *World Development* Vol 29 No 4 pp657-671.
- Simmonds G 1997. Financial and economic implications of thermal improvements. Energy and Development Research Centre, University of Cape Town.
- Sittirak S 1998. *The daughters of development: women in a changing environment*. Zed Books, London.
- Skutsch M 1995. Gender in energy: how some major donors see it. Working Paper 71, Technology and Development Group, University of Twente, Enschede.
- Skutsch M 1997. Gender in energy training pack. Occasional Paper No 9, Technology and Development Group, University of Twente, Enschede.
- Skutsch M 1998. The gender issue in energy project planning: welfare, empowerment or efficiency? in *Energy Policy* Vol 26 No 12 pp945-955.
- Snethkamp P 2000. Demystifying the process: influencing social and economic decision-making in oil and gas development : lessons from West Africa, paper



presented at the Women in Africa African Energy Ministers' Conference, Durban, 11-13 December.

Soal S 2000. Exploring organisational culture in South African NGOs, in *ODdebate* March pp13-15.

South Africa 1995. Country report to the Fourth World Conference on Women, Beijing.

South African Energy profile 1998, South African National Energy Association (SANEA), Sandton.

Spender D 1985. *Man made language*. Routledge, Boston.

Spivak G 1988. *In other worlds: essays in cultural politics*. Routledge, New York.

Stanley L & Wise S 1983. *Breaking out: feminist consciousness and feminist research*. Routledge & Kegan Paul, London.

Stanley L & Wise S 1993. *Breaking out again: feminist ontology and epistemology*. Routledge, London.

Starkey P 1998. Women, transport energy and donkeys: some implications for development workers, in *Energia News* Vol 2 Issue 2 pp11-13.

Sunde J & Bozalek V 1993. (Re)searching difference, in *Agenda* No 19.

Sutcliffe B 1999. The place of development in theories of imperialism and globalization, in Munck R & O'Hearn D (eds) *Critical development theory: contributions to a new paradigm*. Zed Books, London.

Sutherland C 1995. Report on the South African chapter of the Federation of African Women in Education (FAWE). Cape Town

Swanepoel H & de Beer F 1992. In-depth investigation into fuel use by urban women in the PWV area. Report to the National Energy Council, Pretoria.

Tapscott C 1996. Changing discourses of development in South Africa in Crush J (ed) *Power of Development*. Routledge, London pp176-191.

- Taylor V 1997. *Social mobilisation: lessons from the mass democratic movement*. Unicef and SadeP, University of the Western Cape, Cape Town.
- Taylor V 2000. Marketisation of governance: Critical feminist perspectives from the south. SADEP, University of Cape Town.
- Tedd L 2001. Energy and street food vendors, in *Boiling Point* No 47 pp10-13
- Terblanche A, Danford I & Nel C 1993. Household energy use in South Africa: air pollution and human health, in *Journal of Energy in Southern Africa* pp54-57.
- Terblanche A, Opperman L, Nel C, Reinich S, Tosen G, & Cadman A 1992. Preliminary results of exposure measurements and health effects of the Vaal Triangle air pollution study, in *South African Medical Journal* Vol 81 pp550-556.
- Thamae S 2001. Energy and health: revisiting the World Commission on Environment and Health, paper presented at the workshop to launch a Gender and Energy Network and focal point in Lesotho.
- The National Electricity Regulator Annual Report 2000/2001, Sandton.
- Theron P 1992. Analysis of new urban electrification in the Western Cape. Energy and Development Research Centre, University of Cape Town.
- Thom C & Wentzel M 1998. The 2.5 amp electricity supply option: some experiences in Mafefe, in *Journal of Energy in Southern Africa* Vol 9 No 1 pp18-20.
- Thom C 1997. A development framework for rural electrification: some preliminary findings. Energy and Development Research Centre, University of Cape Town.
- Thompson J 1994. Women in science, in Lessing M (ed) *South African women today*. Maskew Miller Longman, Cape Town pp267-274.
- Thorne B 1978. Political activist as participant observer: conflicts of commitment in a study of the draft resistance movement of the 1960s, in *Symbolic Interaction* Vol 2 No 1 pp73-88.
- Tinker I 1980. *The real energy crisis: women's time*. Equity Policy Center, Washington DC.

- Tinker I 1980. The real energy crisis: women's time, in Desai A 1990 (ed) *Human energy*. Wiley, New York.
- Tinker I 1982. *Women, energy and development*. Equity Policy Centre, Washington DC.
- Tinker I 1985. Advocates, practitioners and scholars, in Overholt C, Anderson M, Cloud K & Austin J (eds) *Gender roles in development projects*. Kumarian Press, Connecticut pp17-56.
- Tinker I (ed) 1990. *Persistent inequalities*. Oxford University Press, Oxford.
- TNO: Netherlands Organisation for Applied Scientific Research. 2001. Monthly magazine, June.
- Townsend J 1995. Who speaks for whom? Outsiders re-present women pioneers of the forests of Mexico, in Nelson N & Wright S (eds) *Power and participatory development: theory and practice*. Intermediate Technology Publications, London.
- Trollip H 1996. *Overview of the South African energy sector*. Energy and Development Research Centre, University of Cape Town.
- Tucker V 1999. The myth of development: a critique of a Eurocentric discourse in Munck R & O'Hearn D (eds) *Critical development theory: contributions to a new paradigm*. Zed Books, London.
- Tyani L 2000. Energy efficiency in a restructuring distribution industry in South Africa: analysis and policy strategies. Energy and Development Research Centre, University of Cape Town.
- Udayagiri M 1995. Challenging modernisation, in Marchand & Parpart J (eds). *Feminism/ postmodernism / development* Routledge, London pp159-178.
- UNDP (United Nations Development Programme) 1989. *World survey on the role of women in development*. United Nations, New York.
- UNDP (United Nations Development Programme) 1997. *Energy after Rio: prospects and challenges*. UN Publications, New York.

- UNDP (United Nations Development Programme) 1998. Terms of Reference for the Energy and women in Africa project. UNDP, New York.
- UNDP (United Nations Development Programme) 1999. Energy and women in Africa project. A summary of country reports, and the report on regional workshop for Southern Africa, Pretoria, 21-22 June.
- UNDP (United Nations Development Programme) 2000. *Gender and energy: how is gender relevant to sustainable energy policies?* UNDP Bureau for Development Policy Sustainable Energy and Environment Division, Energy and Atmosphere Programme, New York.
- UNDP (United Nations Development Programme) Initiative for sustainable energy, <http://www.undp.org/seed/energy/unise/chapter1.html>
- UN DPI (United Nations Department of Public Information) UN DPI/ Development and Human Rights Section 1997. Earth Summit +5. Backgrounder on Women and sustainable development. United Nations, New York.
- USA DOE (United States of America Department of Energy) 1995. Country energy profile: South Africa. Energy Information Administration, Washington DC.
- Van Horen C 1996. *Counting the social costs: electricity and externalities in South Africa*. Elan, Cape Town.
- Vargas V 1987. Women, vote for yourselves! Reflections on a feminist election campaign, in Davies M (compiler) *Third world second sex 2*. Zed Books, London.
- Viljoen R 1989. Domestic energy transition in South Africa in the context of rapid urbanization. Unpublished MSc thesis. Energy Research Institute and Energy and Development Research Centre, University of Cape Town.
- Villarreal M 1992. The poverty of practice. Power, gender and intervention from an actor-orientated perspective, in Long N and Long A (eds) *Battlefields of knowledge: the interlocking of theory and practice in social research and development*. Routledge, London.

- Visvanathan N, Duggan L, Nisonoff L, & Wiegersma N (eds) 1997. *The women, gender and development reader*. David Philip, Cape Town.
- Von Schirnding Y 2000. Household energy use, health and development. Background paper prepared for the USAID /WHO Global Consultation on Indoor Air Pollution and Household Energy in Developing Countries, Washington DC, 3-4 April.
- Walker C (ed) 1990. *Women and gender in Southern Africa to 1945*. David Philip, Cape Town.
- Walker C 1982. *Women and resistance in South Africa*. Onyx Press, London.
- Walker C 1985. Women's resistance: in search of SA feminism, in *Work in Progress* No 36 pp30-33.
- Walker C 1990. The women's suffrage movement: the politics of gender, race and class, in Walker C (ed) *Women and gender in Southern Africa to 1945*. David Philip, Cape Town pp313-345.
- Walters S 1991. Empowering women for community organisations, in *Matlhasedi* Vol 10 No 1.
- Wamukonya L 1999. Sustainable energy and gender: Namibia's background paper. UNEP report, New York.
- Wamukonya N & Skutch M 2001. CoP6: the gender issue forgotten? in *Energia News* Vol 4 Issue 1 pp14.
- Wamukonya N 2000. Monitoring Kutlwanong eco-homes: final report. Energy and Development Research Centre, University of Cape Town.
- Wamukonya N 2000a. The involvement of women in decision-making processes in the energy sector, paper presented at the Women in Africa African Energy Ministers' Conference, Durban, 11-13 December.
- Wang CT & Dutkiewicz RK 1995. Energy balances in South Africa 1970-1993. Report for the Department of Mineral and Energy Affairs, Pretoria.

- Ward S 1995. Report summarising the policy solutions put forward by participants of the public participation workshops. EDG. Cape Town.
- Ward S 1995a. Review of household energy use in South Africa. Energy for Development Research Centre University of Cape Town.
- Waring M 1999. *Counting for nothing: what men value and what women are worth*. University of Toronto Press, Toronto.
- Weaver J, Arnold S, Cruz P & Kustner 1989. Competing paradigms of development, in *Social Education* April/May.
- WEDO 2002. Report from the WSSD, email from Rebecca Pearl to the CSD-9 / NGO Women's Caucus group, 8 October.
- Wells J 1991 (written 1982) *We have done with pleading: the women's 1913 anti-pass campaign*. Raven, Johannesburg.
- Wentzel M 2000. Renewable energy technology transfer: socio-cultural impacts, in *Energia News* Vol 3 Issue 2 pp7-10.
- White C, Bank L, Jones S & Mehlwana M 1997. Restricted electricity use among poor urban households, in *Development Southern Africa* Vol 14 No3 pp413-423.
- White Paper on the Energy Policy of the Republic of South Africa 1986. Department of Mineral and Energy Affairs, South African government, Pretoria.
- Whitehead A 1981. 'I'm hungry, mum': the politics of domestic budgeting, in Young K Wolkowitz C & McCullagh R (eds) *Of marriage and the market: women's subordination in international perspective*. CSE Books, London.
- Whitehead A 2000. Continuities and discontinuities in political constructions of the working man in rural sub-Saharan Africa: the 'lazy man' in African agriculture, in *The European Journal of Development Research* Vol 12 No 2 pp23-52.
- Wieringa S 1998. Rethinking gender planning: a critical discussion of the use of the concept of gender, in *Gender, Technology and Development* Vol 2 No 3 pp349-371.

- Williams A, Eberhard A & Dickson B 1996. Synthesis of the Biomass Initiative. Energy and Development Research Centre, University of Cape Town.
- Williams R 1983. *Keywords. A vocabulary of culture*. Fontana Press, London.
- Wilson F & Ramphela M 1988. *Uprooting poverty: the South African challenge*. David Philip, Cape Town.
- Wilson M & Thompson L (eds) 1978. *The Oxford history of South Africa: Volume II 1870-1966*. Oxford University Press, Oxford.
- Wionczek M 1994. Energy policy in Latin America: a break with the past, in Graham S (compiler) *Energy research in developing countries*. International Development Research Centre (IDRC), Ottawa.
- WIP (*Work in Progress*) No 36 March 1985; No 38 August 1985; No 42 May 1986; No 44 October 1986; No 47 April 1987; No 48 July 1987; No 50 & 51 October/November 1987.
- WIP (*Work in Progress*) 1985. The Nairobi conference pp29-32.
- Wonfor C 1998. Women and urban transport: improving public taxi transport and energy efficiency in South Africa, in *Energia News* Vol 3 Issue 3 pp5-7.
- Wood K & Jewkes R 1997. Violence, rape and sexual coercion: everyday love in a South African township, in *Gender and Development* Vol 5 No 2.
- Woolf V 1928. *A room of one's own*. Penguin Books, London.
- Worger W 1987. *South Africa's city of diamonds: mine workers and monopoly capitalism in Kimberley. 1867-1895*. AD Donker, Johannesburg.
- World Bank 2001. *African poverty at the millennium: causes, complexities, and challenges*. World Bank, Washington DC.
- World Bank 2001a. *Engendering development through gender equality in rights, resources, and voice*. World Bank and Oxford University Press, Washington DC.
- World Bank African Regional Findings  
<http://www.worldbank.org/afr/findings/english/find152.htm>

Young K 1997. Gender and development, in Visvanathan N, Duggan L, Nisonoff L, & Wiegiersma N (eds) *The women, gender and development Reader*. David Philips, Cape Town pp51-54.

### **Interviews:**

Interview with Bronwyn James, Cape Town, 10.09.1999

Interview with Caroline White, Durban, 2.08.1999

Interview with Fiona Ross, Cape Town, 13.09.1999, 2001

Interview with Ilne-Marie Hofmeyr, Hout Bay, 06.07. 2000

Interview with Jenny Case, Cape Town, 09.09. 1999

Interview with Khibi Mabuse, Midrand 20.06.2002

Interview with Reinhold Viljoen, Hout Bay, 12.09.99

Interview with Rita Mfenyana, Muizenberg, 10.09.1999; 7.06.2001

Interview with Sandile Tyatya, Pretoria 24.10.2000

Interview with Sara Ward, Kalk Bay, 11.10. 2001

Interview with Snoepie Bopape, Pretoria, 15.11. 2000

### **Correspondence**

Correspondence with Johan Basson, Pretoria 1997

### **Personal communication**

DME official, Pretoria, 1999, 2000.

Dr Anton Eberhard, Cape Town, 1997; 2000

Dr Brenda Boardman, London 1999.

Dr Gert van den Berg, Pretoria, 2001

Dr Giesela Persad, Cape Town, 2002



Dr Gordon Sibiyi, Pretoria 1997

Dr Joy Clancy, Pretoria, 2001

Elizabeth Cecelski, email, 2002

Mr Jamal Gore, Pretoria, 2001

Mr Mark Gandar, Durban, 1996, 1997

Mr Tony Golding Pretoria, 1994

Mr Yaw Afrane Okese, Cape Town 2002

Ms Amita Makan, Cape Town, 1994, 1995

Ms Gertrude Fester, Cape Town, 2000

Ms Hazel Ranning, Cape Town 2000, 2001

Ms Khamarunga Banda, Johannesburg, 2002

Ms Maria Mbuli, Durban, 1997

Ms May Sengendo, Cape Town, 2002

Ms Sizakele Mkhize, Durban, 1997

Ms Winifred Mandlazi, Pretoria, 1999, 2000.